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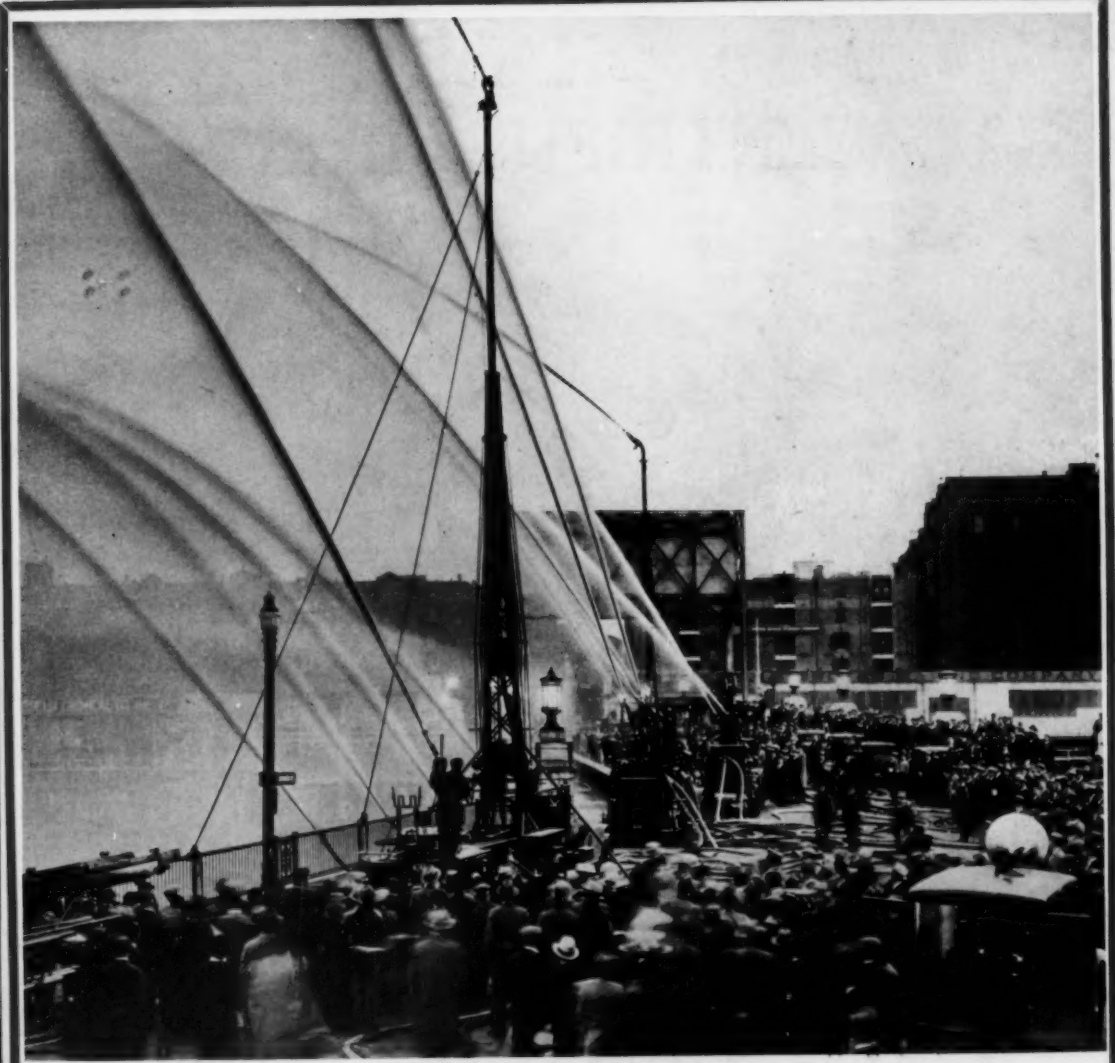
The Journal of the Fire Protection Profession

OCTOBER 28, 1931



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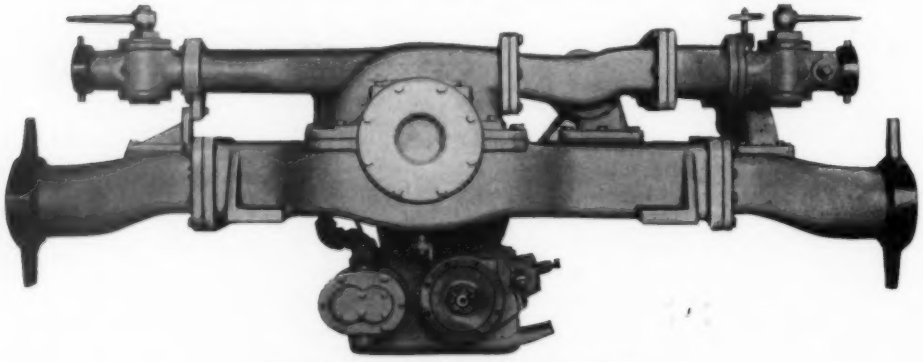

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TO everyone who really takes the fire fighting profession seriously, the annual convention of the International Association of Fire Chiefs is without doubt considered the most important event of the year.

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● In this issue, we are happy to present what we believe is the first and only full account yet published of the recent Havana Convention. Two members of our organization, Fred Shepperd and I. H. Case, were there to make sure that we didn't miss anything, and we hope that the story, with the numerous snapshots, will serve to bring the Havana gathering home to those who were unable to attend.

● Incidentally, FIRE ENGINERING was the only magazine represented at the Convention so far as we have been able to determine. That's something, isn't it?

The Publishers

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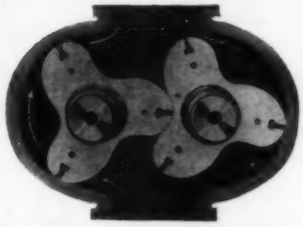

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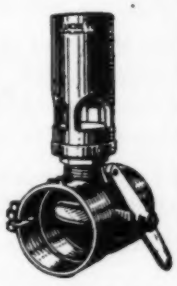

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FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Journal of the Fire Protection Profession

VOLUME LXXXIV OCTOBER 28, 1931 NUMBER 22

Validity of Fire Department Contracts

Important Rulings of Higher Courts Interpreting the Law in This Connection—How the Rights of the City are Protected

By LEO T. PARKER, Attorney-at-Law

WHEN determining whether a contract is valid which involves a municipal Fire Department, or its officials, several established phases of the law must be considered. In fact the Courts have formulated certain rules that may be referred to for the purpose of determining with reasonable certainty when a municipal contract is valid and enforceable.

A municipal contract is valid (1) if the contract is formulated strictly according to constitutional provisions, state laws, city charter requirements and city ordinances; (2) where there was no lack of power in the municipal corporation's officials to make the contract, but there was merely an irregular exercise of such power, the contract may be valid because a person contracting with a public body, under such conditions, is not obliged to scrutinize, at his peril, the corporate proceedings; (3) where the contract is within the power of the municipal officials, but was entered into with unauthorized agents of the other party and the contract has subsequently been ratified and confirmed by the municipality, or its properly authorized agents, a valid contract exists.

The rules which indicate invalidity of a contract are, as follows: (1) where the contract is within the municipal power, but entered into through the municipality's unauthorized agents, and the acceptance or ratification of the contract was not by its duly authorized agents, but by unauthorized agents or officers; (2) where the contract is not within the power of the municipality's officials there can be no ratification or acceptance legally, and consequently the contract is void; (3) where the contract is within the power of the municipality, but entered into with its unauthorized agent, and there is no ratification or acceptance by the properly authorized officials, an invalid contract results.

Frequently, an invalid contract which may be ratified by proper public officials and rendered valid, remains invalid through neglect or failure of officials to take necessary steps to ratify it. However, this unfortunate circumstance can exist only when the contract is within the power of the municipality, but it was made or signed by unauthorized officials.

For illustration, in Potter vs. Borough of Metuchen, 155 Atl. 369, decided during the past few weeks, it was shown that two members of the Borough Council, referred to as Fire Commissioners, made a verbal contract with a contractor agreeing to pay the latter $350 to construct a concrete floor in a fire house.

The city refused to pay the bill and the contractor filed suit. During the trial the contractor proved that the Fire Commissioners were clothed with authority and duty of making necessary repairs to and replacing equipment, etc.

Although it is within the power of the municipality to repair its buildings, the Fire Commissioners were not specifically authorized to replace floors in fire houses or other public buildings. Therefore, since the agreement had not been ratified or approved by the properly authorized officials, the Court held the contract void, saying:

"Et cetera means: 'And other things or the rest; and so forth; used to indicate others of a kind specified.' We are entirely unable to bring ourselves to the conclusion that this abbreviation used in connection with the particular specification of fire equipment should be taken to include repairs to a floor of a leased fire house. . . . From the state of case before us, we are . . . compelled to find that there is nothing before us upon which the finding of the trial Court as to authority of the Fire Commissioners to enter into the contract in question can be based."

SUBJECTS TREATED IN THIS ARTICLE:

When a Municipal Contract is Valid.
Rules Must Follow Provisions of Ordinance.
Verbal Agreement to Sell Real Property is Void.
The Rights of the City.
Scope of a Written Contract.
Unreasonable Sale Contract Held Void.

Must Follow Provisions of Ordinance

As previously stated, a contract of purchase is invalid if the rules, regulations, state statutes and other legal requirements are not fully fulfilled. Therefore, a contract for the purchase of fire equipment is not valid if any material irregularities are shown to have existed when the contract was made.

For instance, in Burt vs. Municipal Council of City of Taunton, 176 N. E. 511, it was disclosed that the Council of a city adopted an order forbidding committees to make purchases in an amount exceeding five hundred dollars

"without first calling for sealed bids by advertisement, published in the Taunton Daily Gazette, setting forth the specifications and the time and place where and when such bids will be received. . . ."

Later the municipal committee decided to purchase a pumping engine. Sealed proposals were called for by advertisement in a local daily newspaper setting forth the specifications. However, the advertisement actually published did not set forth the specifications but said merely that sealed proposals would be received at a time and place specified for furnishing a motor driven pumping engine

"in accordance with specifications which may be had at the Chief Engineer's office, Central Fire Station. . . . The right to reject any and all bids is reserved."

Certain citizens filed suit to prevent purchase of the fire equipment by the committee, or the Fire Department, on the grounds that the advertisement was not published in accordance with the above mentioned order. In sustaining

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this contention and holding the contract to make the purchase void, the Court stated the following important law:

"Manifestly this advertisement did not conform to the terms of the order. It did not set forth the specifications, but simply referred to a place where such as existed might be found. Even those specifications were in outline showing only in a general way what was required, each bidder being required to provide complete specifications in detail. . . . Its purpose is to protect the financial interests of the city by preventing favoritism in awarding contracts and to put a limitation on the otherwise very broad powers of the city officers to bind the city by contract. Its tendency is to give full publicity to proposed city contracts, to establish genuine and open competition upon the same footing after proper advertisement, and to insure honest methods of letting contracts."

Verbal Agreement to Sell Real Property is Void

The Courts have consistently held that a verbal contract is void by the terms of which it is agreed to lease, sell, give passage rights, or an easement pertaining to real property. Moreover, a written contract given by municipal officials and pertaining to city property always is void if the officials fail to strictly abide by state and city laws which delegate authority to transact business of this nature.

For example, in City of Aransas Pass vs. Minter, 34 S. W. (2d) 1113, it was disclosed that a municipality owned a strip of land and the city officials decided to construct a fire station on it. The owner of property abutting this strip sued the city to prevent construction of the fire station on the contention that by a verbal agreement the city officials had given an easement over this strip for the purpose of ingress and egress to and from the adjoining properties, and a passageway for the public. It was further contended by the property owner that in reliance upon this agreement he constructed a business building upon his lot so that it opens upon the vacant strip, and receives its only light and ventilation therefrom, and that if the city constructs its fire station on this strip of land it will greatly impair the value and usefulness of his business building. Notwithstanding this argument the higher Court held the city entitled to construct the fire station, and said:

"There is and was no written conveyance by the city of the alleged easement. It is elemental that an easement such as that claimed by appellee (property owner) constitutes such an estate in land as that contemplated in the Statute of Frauds, which prohibits the conveyance thereof except through a declaration in writing. . . . If a verbal agreement of this nature could ever operate as a conveyance of land, the alleged agreement in this case was as a matter of law and fact too vague and indefinite to constitute a binding obligation upon the city to forego its inherent right and affirmative obligation to the public to put the property involved to whatever use may best serve the public interest, which is a matter to be determined by the city governing board from time to time and administration to administration, unless and until it is permanently dedicated to a particular public use inconsistent with all other uses, and such dedication must be done under forms and solemnities essential to the validity of such acts, and at no time employed in this transaction."

Rights of City

Various Courts have held that a city is a mere auxiliary to the state government. It is a public institution for self-government and local administration of the affairs of state. It is appointed and empowered for that purpose and is therefore an agent of the state for local administration of governmental affairs.

In its public character a municipal corporation is the agent of the state acting as an arm of the sovereignty of the state created for the convenient administration of the government exercising to the extent that they have been granted the governmental functions and powers of the state.

As previously stated, governmental functions are those conferred or imposed upon the municipality as a local agency of limited and prescribed jurisdiction to be employed in administering the affairs of the state and promoting the public welfare. The dual or double capacity in which a municipality acts results in it exercising two classes of rights, two classes of powers and two kinds of duties recognized in many jurisdictions in the United States. Considered as an agency of the state, the governmental functions, powers, and rights of the municipality are variously designated as public, legislative or political.

When not considered as an agency of the state but in the other of these dual capacities, the ministerial functions and powers exercised are variously designated, as private, quasi-private, proprietary, municipal or even commercial.

Generally speaking, a municipal corporation is allowed legally to go into a business only on the theory that thereby the public welfare will be subserved. So far as gain is an object, it is a gain to a public body and must be used for public ends. In other words, the municipal functions are those granted for the specific benefit and advantage of the urban community embraced within the corporate boundaries.

It is readily apparent that the distinction between the two capacities of a municipal corporation is important, but it is not always easy to draw. In fact some functions are so close to the line that Courts vary in their views concerning them and are held in some states to be governmental and in others private, but it is generally conceded that a municipal corporation cannot be constitutionally authorized to undertake any functions really private. If there is any restriction implied and inherent in the spirit of American Constitutions, it is that the government and its subdivisions shall confine themselves to the business of government for which they are created.

One important and well established rule relating to municipal corporations is that authority for a municipality to perform an act cannot be implied or assumed. If a reasonable doubt exists as to municipal power it will be resolved against the city. On the other hand, when a proper function of government appertaining to the duties of a city is apparent, the Court may presume the city's power, although any ambiguity or doubt as to the extent of a power attempted to be exercised by a city, out of its usual range, should be resolved against the city.

(*Continued on page* 835)

Chief Chase of Lynn, Mass., Retired

Edward E. Chase, veteran Chief of the Lynn, Mass., Fire Department, has retired on pension. He was born on June 8, 1862, and was appointed as substitute call man on March 8, 1885. He became a reguar call man on March 10, 1888, being assigned to Engine Company No. 2. On March 12, 1897, Mr. Chase was made call captain of Engine 2. He became Chief of the Lynn Fire Department on Dec. 13, 1912.

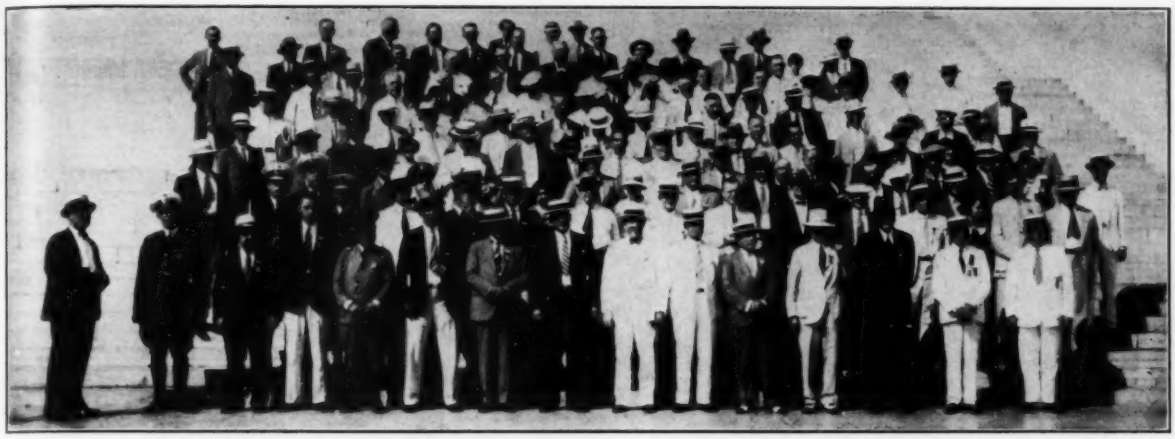
Ex-Chief Edward E. Chase

Chief William F. Welch

During the nineteen years that he served as head of the Lynn fire forces he had to contend with many serious fires especially in the factory district of the city. Under the administration of Chief Chase the department was completely motorized and many other improvements were made in the service. He is a member of the Fire Chiefs' Club of Massachusetts, the Massachusetts State Firemen's Association, the New England Association of Fire Chiefs, and the International Association of Fire Chiefs.

Chief Chase will be succeeded by Deputy Chief William F. Welch, who joined the department as a substitute call man on May 16, 1891, being assigned to Engine Company No. 2. He was appointed a permanent call fireman on Feb. 25, 1895, and transferred to Chemical Co. 1. Welch was made a permanent fireman on March 6, 1898. On April 28, 1894, he was transferred from Engine Company No. 2 to Engine Company No. 4. On April 6, 1905, he was promoted to Captain and assigned to Chemical Co. No. 1. Welch became Assistant Chief on March 1, 1913, and was assigned to the central district of the city. On March 24, 1919, he was made a Deputy Chief. Upon the application by Chief Chase for retirement, Mayor J. Fred Manning, of Lynn, announced that Welch would be appointed Chief of the Department. Chief Welch is a past President of the Massachusetts State Firemen's Association.

HARRY BELKNAP.



Some of the Delegates to the I. A. F. C. Convention, Taken on the Steps of the Capitol at Havana

Havana Convention Successful

Apprehension of Poor Attendance and of Lack of Interest Proved Unfounded; Nearly 700 Made the Trip to Cuban City

DESPITE fear of political unrest in Havana, the depression, and the expense of making the trip, the fifty-ninth annual convention of the International Association of Fire Chiefs, held in the Cuban capital, may be classed as entirely satisfactory. Well over three hundred chiefs registered, and guests and associate members swelled the total to nearly seven hundred.

An excellent program was presented, and lively discussions followed many of the topics.

The selection of next year's convention city, as well as the officers of the Association, was made in each instance without contest. Next year's convention will be held at San Diego, California, probably in August, so that the delegates may have opportunity of spending a day witnessing the Olympic games to be held at Los Angeles during the month of August.

The only threatened contest in the election of officers was that in connection with the second vice-presidency.

Two candidates were nominated for this honor, Chief Selden R. Allen of Brookline, Mass., and Chief John Towey of Newark. But before the balloting started, Chief Towey graciously withdrew, and moved that the election of Chief Allen be made unanimous. A single vote was thereupon cast by the Secretary for Chief Allen, who thus became second vice-president of the Association. Chief Towey will be a candidate for the office in 1932.

No exhibits were held in connection with this convention, due to the absence of an exhibit hall which could properly accommodate apparatus and equipment, and also due to the expense and difficulty of transporting apparatus to and from Cuba. But the omission of this feature was wise from another angle; the intense heat at Havana would have made the patronage of exhibits light.

The Convention Opens

The first meeting was called to order on Wednesday morning by President Joseph N. Sullivan. Invocation was given by Rev. Father P. Moynihan. The address of welcome was presented by Mayor Tirso Mesa of Havana, and was responded to by Chief Selden R. Allen of Brookline, Mass.

Subsequently Chief Sullivan delivered the President's Message, after which memorial service and roll call of departed members followed.

The retiring president, Chief J. N. Sullivan (left) congratulating his newly-elected successor, Chief D. W. Brosnan.

First Business Session

The first paper at the Wednesday afternoon session was on reducing incendiarism by Chief John C. Moran of Hartford, Conn.

Chief Moran outlined the three types of fires set by pyromaniacs, and pointed out how intelligent cooperation between Police and Fire Department could materially reduce such fires.

He further described the system employed in Hartford, where, by holding up payment of insurance for properties damaged by suspicious fires, the number of such fires was materially reduced.

"Every fire department should keep complete records of all fires responded to, as well as of all building inspections, fire losses, etc.," said Chief Moran. "These card records prove very interesting as well as valuable aids in conducting many fire investigations. These records should be available for any insurance agent or officials desiring information in connection with their business."

"Investigation of Fire," was the second paper on the program, and was presented by Chief Raoul Gauthier, of Montreal, Quebec. Chief Gauthier outlined the methods employed in detecting incendiary fires at Montreal, and presented interesting technical data on the number of fires during the year, number of those of suspicious origin, number of suspects brought to trial, and as well as the number convicted.

Educational Program Discussed

Chief Ralph J. Scott, of Los Angeles, Chairman of the Educational Committee of the Association, presented a talk which was in the form of a progress report on the work of the Educational Committee. He praised the work of the Federal Board for Vocational Education for its splendid cooperation and the thoroughness with which it performed its work in developing the outline of a course of instruction for firemen.

Following Chief Scott, Mr. Frank Cushman, Chief, Industrial Educa-

"And a Good Time Was Had By All" at the Havana Convention

Left—Chief R. L. Smith of Pittsburgh (left) and Chief Selden Allen of Brookline, Mass., congratulate each other on their election as First and Second Vice-Presidents, respectively.

Top—The good, old dependable New Jersey delegation was there as strongly as ever. Bottom—A group on the convention ship Scythia that helped make merry.

Right—Just an old Spanish custom. Asst. Chief Jack Raffo is welcomed to Havana with a warning that he wouldn't be allowed to leave unless he enjoyed himself.

tional Service, Federal Board for Vocational Education, Washington, D. C., gave an interesting talk on the experience of the Board in developing its outline of a course of instruction for department members. He expressed appreciation of the cooperation given his men by members of the International Association of Fire Chiefs and expressed the hope that the Board would be able to give additional help to the Association in developing the Educational Program.

A motion was made and carried that the following members of the Federal Board for Vocational Education be made honorary life members of the International Association of Fire Chiefs: Frank Cushman, James R. Coxen and C. F. Klinefelter.

The motion was carried unanimously.

At this part of the program, the reports of the Secretary and Treasurer were presented.

What's a Trip to Havana without a Visit to Sloppy Joe's

Left to right, front row—Fire Surgeon and Mrs. J. N. Pannullo, Newark, N. J. (honeymooners, incidentally); Chief J. J. Towey, Newark; Tom W. Haney, Jacksonville, Fla.; Chief J. T. McNulty, St. Petersburg, Fla. Rear: Salvage Supt. J. T. Reegan, Newark; Chief Hodson, Thomasville, Ga.; Roy Timmerman, Eureka Fire Hose Co., Atlanta, Ga.

Inspection Work

Chief Frank Charlesworth of Providence, R. I., was the next speaker on the program. He discussed uniformed inspection work. House to house inspections are carried on in Providence annually, and the results have been most gratifying. Very little objection on the part of the householders is encountered, chiefly because of the tactful methods employed by the fire department inspectors. "There can positively be no success in any inspection of any kind if the men making the inspection do not understand the law or ordinance governing their power and the observance of the condition of the objective and the definition of the word 'courtesy'" said Chief Charlesworth.

False Alarms Widely Discussed

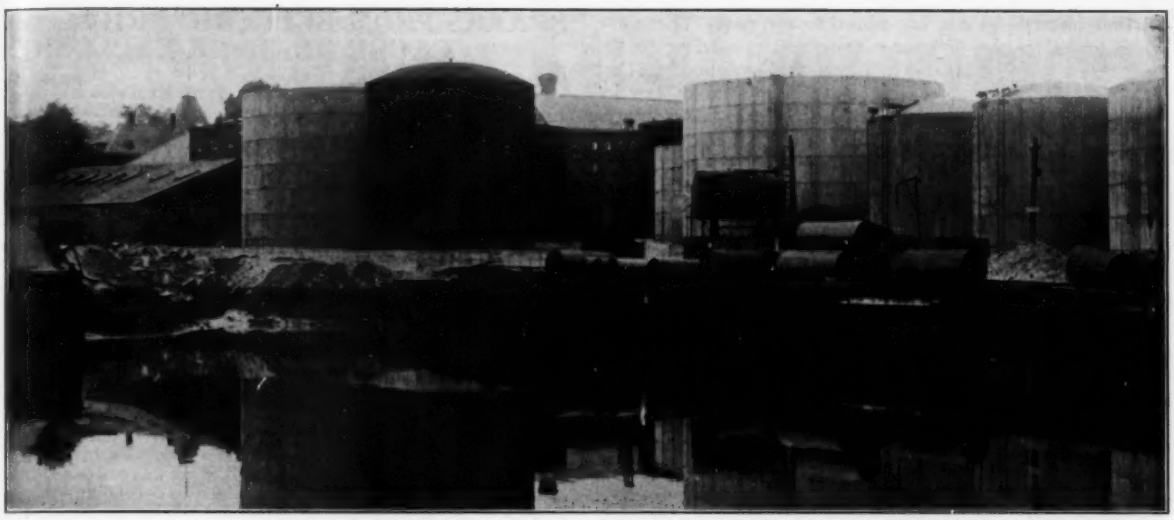
Chief George Hedden, of Buffalo, N. Y., opened the discussion on "Keeping down False Alarms," by expressing his belief that little can be done under present conditions along this line. Following his talk, many suggestions were offered. Chief Steinkellner expressed the opinion that a change in the type of fire alarm box might result in a reduction in certain types of false alarms, particularly those transmitted by "joy riders" and boys. Chief Monroe of Savannah, Ga., described how he cut out telephone false alarms by requiring of the person giving the alarm the number of his telephone.

Chief Dunn of St. Paul believed that reduction of false alarms is best accomplished by education, while Chief Henry Fox of Boston seriously condemned the Cleveland Public Safety Official who ordered fire alarm boxes taken out in order to reduce false alarms. Others who discussed the subject were Chief Anderson of Ft. Myers, Fla., Chief Gardiner of Kansas City, Mo., and Chief Sanborn of Portland, Me., and Mr. Maulen of the Gamewell Company, Dallas, Tex.

The Fire College

As the first topic on Thursday morning's program, Chief William R. Anderson of Fort Meyers, Fla., discussed the question: "Is the Fire College a Success?" He reviewed the

(*Continued on page* 830)



Gasoline Tanks Along Waterfront of Bridgeport, Conn., Called a Menace to City in the Event of a Fire. There are Seven Loading Tanks, with a Total Capacity of 57,000 Gallons, and Ten Storage Tanks with a Total Capacity of 3,231,000 Gallons. This Is the Plant of the Michael Hoffman Fuel Company

Hazard of Great Quantities of Gasoline Stored at a Water Front

Millions of Gallons of the Volatile Liquid Provide a Serious Menace to Bridgeport's Business Section

By THOMAS F. MAGNER, Bridgeport, Conn.

The menace contained in the storage of millions of gallons of gasoline in the heart of a city's business section is a mighty one. Such a condition is described in the article which follows, the status being aggravated by the fact that the storage is at a water front, where blazing oil may float on the water and be carried to other portions of the city:

THE entire water front along the Pequonnock River at Bridgeport, Conn., is faced with a highly dangerous fire hazard as the result of improper storage of millions of gallons of gasoline and oils by two firms, according to a report received by Fire Marshal Thomas F. Burns of the Bridgeport Fire Department. The committee, according to the Fire Marshal, made an investigation of fire hazard and risks throughout Bridgeport in an effort to reduce fire insurance rates.

The committee, which was sponsored by the Chamber of Commerce of that city, found that the method of gasoline storage in the heart of the city's business section constitutes a very definite conflagation hazard, and if a fire of almost any character were to break out it would be impossible for the Fire Department to cope with the situation with its present equipment, which is rated with the best in the East.

Hazardous Location of Two Companies

The two companies cited are the Michael Hoffman Fuel Company at East Washington Avenue, Housatonic Avenue and Pequonnock River and the Sylvestre Oil Company at Pulaski Street and Noble Avenue and along the Pequonnock River. It was found that the Michael Hoffman Company has ten storage tanks with a total capacity of 3,231,000 gallons and seven loading tanks with an aggregate capacity of 57,000 gallons.

The location of these tanks is so close to surrounding buildings, the report states, that if a fire were to break out in one tank it would be impossible for the Fire Department to prevent the spread of the blaze to other tanks and buildings. It is stated in the report that the dikes which surround these tanks are inadequate to prevent the flowing oil from reaching other sections, or from flowing into the Pequonnock River where it would spread until the conflagation reached the business center of the city, which is about one half mile down stream.

Could Not Save Bridge in Case of Fire

The report points out that it would be impossible to save the New Haven Railroad Bridge which crosses the river at this point. It also states that there is inadequate fire prevention equipment in the premises, and that certain of the tanks are not equipped with proper vents, and that the premises are not properly surrounded with fences to exclude trespassers.

The close proximity of certain coal and coke yards, as well as the lumber yards of the Frank Miller Lumber Company, also adds to the hazard, the report states. The Miller plant is located directly across the street from the Hoffman Company's tanks.

Four Million Gallons of Inflammable Material Stored

In the case of the Sylvestre Oil Company, a report was made by a Boston insurance company. While this report is similiar to that made on the Hoffman Company,

further hazards by fire are added to the city. There are four tanks on the Sylvestre property, according to the report, in which 4,000,000 gallons of gasoline and other inflammable materials are stored. These tanks are located on the Pequonnock River, adjacent to the property of the New Haven Railroad, the Saltex Looms Company and the Connecticut State Trade School.

Concrete Dikes Not Sufficient to Stem Flow in Case of Fire

Again it is stated that the concrete dikes are not sufficient to prevent the flow of oil in case of a fire. These tanks are located close to the railroad bridge, and near

Here Are Ten Storage Tanks, with a Capacity of 4,000,000 Gallons of Gasoline and Other Inflammable Materials, in the Plant of the Sylvestre Oil Company, at the Bridgeport Waterfront

a number of high voltage wires. These wires add to what is already considered a highly dangerous situation, the report says.

James D. Lawler, President of the Board of Fire Commissioners of Bridgeport, states that that body has no power or authority to take action in the matter and that it is entirely up to the City Council to eliminate the hazard.

Chief Schier of Union City Dead

Chief Frederick W. Schier, head of the Union City, N. J., Fire Department since 1902, died October 11 in a Jersey City Hospital following a cerebral hemorrhage suffered at his home. On October 22 he would have been sixty-one years old.

He was born in West Hoboken, N. J., October 22, 1870. Mr. Schier joined the volunteer Fire Department in 1890 and was Chief of the West Hoboken Volunteer Fire Department in 1907. He was appointed to the paid Fire Department on May 17, 1907.

When Union City was created by a consolidation of West Hoboken and Union Hill, Schier was named Chief of the new department. This was December 31, 1912.

Chief Schier was scheduled to leave by boat to Havana, to attend the annual convention of the International Association of Fire Chiefs. He is survived by his widow, two sons and a daughter.

Knoxville, Tenn., has been selected as the place for holding the 1932 convention of the Tennessee Firemen's Association.

Deputy Chief John Gilligan of Taunton, Mass., was elected President of the Massachusetts Permanent Firemen's Association at the recent convention held in Northampton. The other officers are John B. Morgan, Waltham, First Vice-President; J. F. Thomas, Worcester, Secretary, Thomas Griffin, Lawrence, Treasurer and Daniel J. Hannan, Peabody, Sergeant-at-Arms.

SPARKS FROM ELECTRIC DRILL CAUSE OIL TANK EXPLOSION

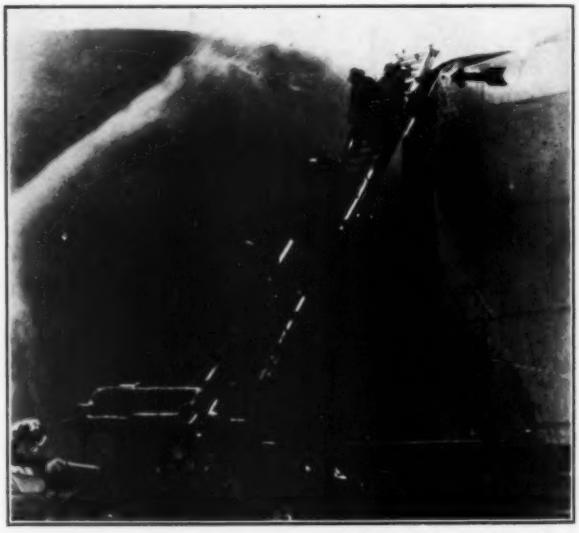
Workman Loses Life When Tank Explodes a Few Feet From High Tension Railroad Wires —Two Alarms Sent for Resulting Fire

EXPLODING with terrific force on October 5, a hole was ripped in the bottom of a storage tank of the Sylvestre Oil Company at Bridgeport, Conn., containing 86,000 gallons of gasoline, and a fire was started which threatened to develop into a conflagration. One workman received injuries from which he died later in a local hospital.

The oil hazard was feared for some time. The National Board of Fire Underwriters declared the presence of the Sylvestre tanks was a menace to the city and constituted a dangerous fire hazard. The Sylvestre equipment is located at the corner of Noble Avenue and Pulaski street along the banks of the Pequonnock River and but a few feet from the high tension power wires of the New Haven Railroad.

The storage tank, built to hold 250,000 gallons of gasoline, sent forth a roaring flame from the top which had been partly blown off by the explosion. An employee of the Excelsior Boiler Works of New Haven, who was suspended on a rope from the top of the tank, and was using an electric drill to install a foam system, was blown over the top of the tank to the opposite side by the force of the explosion.

Two alarms for the explosion were pulled from nearby boxes, both coming into headquarters at 4:02 p.m. Engine



Bridgeport Firemen Fighting the Fire Caused by a Tank Explosion

The arrow indicates where the iron worker was engaged in drilling holes in the tank when a short circuit caused a spark to ignite the fumes. The tank contained 80,000 gallons of gasoline.

Companies 2, 5, 6 and 10, Truck Companies 2 and 3; Chemical Companies 1 and 3 responded with Chief Thomas F. Burns in command. When the firemen arrived on the scene the workman was dangling unconscious in the air, the rope holding his body.

Climbing up a 75-foot aerial ladder, Ladderman Michael Galla of Truck Company No. 2 braved the intense heat and the danger of more explosions, severed the rope from the man's waist, and lowered him to other members of his company standing on the lower ladder rungs.

The force of the explosion ripped a hole in the bottom of the storage tank and a large stream of gasoline flowed into the dyked enclosure around the tank.

It is believed by Fire Department officials that the explosion was caused by a spark from the electric drill or a short circuit spark in the drill igniting the fumes in the tank, which was three-fourths filled with the inflammable material.

The fire was extinguished in less than twenty minutes through the application of foam powder played on the blaze from the generators on No. 2 and No. 3 Trucks. It was the first test of this equipment since its installation in the Bridgeport Fire Department and proved highly efficient.

The Volunteer Fire Department

By N. N. WOLPERT,
Assistant Editor, FIRE ENGINEERING

A Series of Articles on Volunteer Fire Department Administration and Operation.

Drills for Properly Moving Hose on Ladders and Stretching Hose Lines

This article, the twelfth of a series, describes in detail the proper methods for carrying Fire Department hose up stairs, for stretching hose lines and carrying hose up ladders. This information should be made the basis for drills in training volunteer firemen.

IF fires, when they do occur, would only break out in favorable places, much of the trouble experienced in laying hose could be avoided. But too much is taken for granted in that one word, "if."

Not all fires develop on the street floor. Blazes are discovered on upper floors and in places where it is necessary to stretch hose lines either up stairways or by means of ladders. Volunteer firemen should be trained in the proper methods for performing these tasks so that the evolutions may be performed more efficiently and safer.

Drills in Carrying Hose Up Stairs

In carrying hose, which is not charged, up stairways, the firemen should not be more than twenty-five feet apart when carrying the line. Taking into account the distance around stairways, one man per floor is none too liberal an allowance.

To clarify the point, the man at the nozzle end of the line will be termed No. 1. The men who follow him will be called 2, 3, 4, and 5 in order.

Assume that hose is on the ground, and the men are ready for the signal to go. Immediately upon receiving word to proceed, No. 1 takes the end of the line and runs toward the building with it, at the same time screwing the nozzle on.

Firemen Numbers 2, 3, 4 and 5 take their places on the line as is drawn out, stationing themselves about 25 feet apart. After No. 1 has the nozzle on the line, he quickly passes the line under his left arm, over his chest, over his right shoulder, across his back, and grasps the nozzle with his left hand and brings it under his left arm. Nos. 2, 3, 4 and 5 have, in the meantime, placed the line on their right shoulders.

The procession is then ready to mount the stairway. Fig. 1 shows how the arrangement looks. The distances between the men is necessarily shortened so that a sketch of sufficient detail can be shown in the width of the page.

As carried out in large departments, the above drill ends with the placing of the nozzle on the window sill of the fourth floor in position to operate a stream out of the fourth floor window. Where this drill is followed, when the pipeman reaches the window sill he calls out, Fireman No. 5 then drops the hose from his shoulder and straightens it out in front of him. No. 5 calls to No. 4, who drops it from his shoulder, and straightens it out as did No. 5. No. 4 calls to No. 3 likewise, and No. 3 to No. 2. Fireman No. 1 then calls for water.

Taking Down Line

The first step in taking the line out is to shut off the water and then break the line at a point one length away from building. A sixth man should do this, the five men who took the line in, take it out again.

At the command to back out, each man takes the position that he had when he dropped the hose. He picks up the hose, facing the opposite direction. When all men are ready, the word is passed along and the line is carried down.

The practice of stretching charged lines to floors above the second by means of stairways is a poor one to follow. It causes unnecessary delay, and more men are required to perform such an operation than to carry the line in when it is not charged.

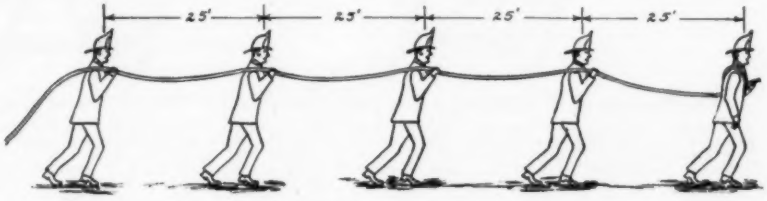
Stretching Charged Line Up Stairway

Where the line is to be taken to the third floor, it should be done in the following manner.

The line is first attached to the hydrant, the nozzle put on, and the hydrant opened up. The nozzle is opened partially to permit air to escape and the line to become charged.

When the order is given to stretch in, No. 1 takes the nozzle (by the leather holder, if it is equipped with one), while the rest of the men take their positions along the line, spaced about 20 feet apart. They carry the hose under the right arm, and in both hands, No. 1 keeping the lead with the nozzle. Any spare men assist by pushing the hose into the building and upwards.

When No. 1 gets to the third floor he places the nozzle on the window sill, and calls to drop the line, No. 2 then moves up to the nozzle and assists No. 1 in operating it.



The Procession of Firemen Carrying a Hose Line Ready to Mount the Stairway

The distance between the firemen was necessarily shortened in the sketch, but in actual practice the distance between the first and last fireman shown would be one hundred feet or the distance represented by two lengths of hose. This arrangement is to allow two men to carry one section of hose.

It is an unsatisfactory practice to back out with a charged line. Time will be saved if the line is relieved by shutting off hydrant and opening up the line outside of building on street before it is backed out.

It is not good practice to carry charged lines up ladders for more than 25 feet which is another way of saying that the line should not be carried up on ladders when the line is charged higher than the third floor window.

Stretching a Charged Line Up a Ladder

The procedure in stretching charged line up a ladder and operating in the third-story window is as follows:

After sufficient hose is laid out, the line is connected to nozzle. No. 2 places his rope on the line twelve feet back from No. 1. No. 3 places his rope on the line twelve feet back from No. 2. Nos. 4 and 5 assist by lightening up on the line.

No. 1 now takes the handle of the hose rope in his right hand, and grasps the leather holder on the nozzle with his right hand (if the nozzle is equipped with leather). He then starts ascending the ladder, with Nos. 2 and 3 following and pulling the line up with their hose ropes. Nos. 6, at the bottom of the ladder, assists by placing his right arm around the hose and boosting it up with both hands. Nos. 4 and 5 also assist by pulling hose in towards the ladder.

When No. 1 is about even with the sill of the third-story window, he takes a leg hold on the ladder. When the nozzle is about even with his head, he calls to the men below him

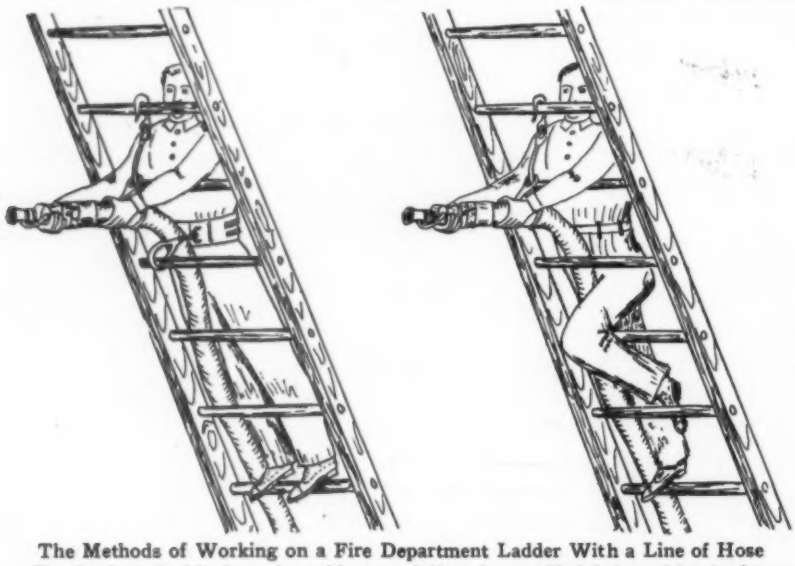
on the ladder to hold on. Nos. 2 and 3 then place the hooks of their hose ropes over the rungs, making the line fast to the ladder. No. 1 grasps the tip of the nozzle with his left hand, bends the hose and pulls the nozzle down. He puts it through the rungs where his left leg is. He then reaches over a rung with the right hand, gets hold of the handle of his hose rope and places the hook on the next rung. The fireman finally reaches through, grasps the nozzle with both hands, opens it, and operates the stream.

In ascending and descending a ladder with a charged line, the men lay close to the rungs, grasping the rungs with the left hand and pulling up the line with the right hand. Most of the work in stretching the line up the ladder falls on Nos. 2, 3 and 6.

Taking Charged Line Down Ladder

In taking a charged line down a ladder, No. 1 shuts off the nozzle, removes hook of hose rope from rungs, backs the nozzle out from between the rungs and lays it up straight against the rungs of the ladder. He then releases his leg hold on the ladder, and ascends about two rungs so that the nozzle is at his hip, and grasps it in the same manner as before.

Nos. 2 and 3 then grasp the handles on their hose ropes, and the line is shifted up so that they can release the hooks from the rungs. The three men descend with the line to the the nozzle is at his hip, and grasps it in the same manner as they descend.



The Methods of Working on a Fire Department Ladder With a Line of Hose

The sketch at the left shows the position on a ladder where no life belt is used by the fireman but instead a leg hold is employed. The drawing shows the right hand holding the nozzle. In New York and other large departments, the nozzle is usually held by the left hand. At the right is shown the position on a ladder where a life belt is used. The right hand is sketched holding the nozzle. In New York and other departments, the nozzle is usually held by the left hand.

Stretching Empty Line Up Ladder, and Operating in Third Story Window

To stretch an empty line up a ladder and to operate in a third-story window the 45-foot ladder is placed to the fourth story window. No. 1 takes the end of the line, places his rope on the hose just back of the coupling and moves to the bottom of the ladder, getting the nozzle and connecting it on the hose. He places the line over his right shoulder.

No. 1 then ascends the ladder, No. 2 taking a position back about twelve feet back with hose on right shoulder, and follows No. 1 on the ladder. No. 3 takes his place about 15 feet back of No. 2 with the hose over the right shoulder and follows No. 2 up the ladder. No. 4 takes his place back of No. 3 and lightens up on the hose. No. 5 takes his place flat against the rungs as the men ascend.

When No. 1 gets opposite the window sill at the third story, he takes a leg hold on the ladder. He removes the nozzle from his shoulder and places it through the rungs where his left leg is, and holds it with his left hand. He then reaches through over the next rung above with his right hand and gets the handle of the rope and places the hook on the next rung above. He then gets both hands on the nozzle and calls for water.

As No. 1 takes leg hold on the ladder, No. 2 does the same on the ladder about 12 feet below, and places his hose rope around the hose—on the part that lays against the ladder. When No. 1 calls for water, No. 2 places his hook over a rung and slides his loop off his shoulder and down the ladder. While No. 2 is doing this, No. 3 descends to the ground and removes his loop from his shoulder, and places his hose rope on the hose, and hooks it on the ladder up about 5 feet from the ground. Nos. 4 and 5 straighten the hose out at the bottom of the ladder. No 6 at the hydrant opens the hydrant when No. 1 calls for water.

New York Fire Department Method

In the New York drill school, No. 1 is equipped with a lift belt having a large snap. When he gets to the third floor window he snaps the belt on the rung of the ladder, puts the hose through the ladder, puts a pipe strap on the hose, reaches over the next rung and lifts up the strap and hose and hooks on to the rung. No. 1 does not have to use a leg hold on the ladder.

Taking Line Down Ladder

In taking a line down off a ladder, No. 6 first closes the hydrant. No. 5 breaks the line one length back from the ladder. No. 4 takes a loop of hose on his shoulder and moves toward the ladder so that No. 3 can easily take his hose rope off the line. No. 3 then takes a loop of the hose on his shoulder and ascends the ladder about five rungs. No. 2 descends about four rungs, takes a loop of the hose on his shoulder and ascends to his hose rope and takes a leg hold on the ladder.

No. 1 removes the hook of his hose rope from the rung, pulls out the nozzle and places it over his shoulder and then releases his leg hold on the ladder. No. 2 backs off the rung and removes his hose rope from the hose. He releases his leg hold on the ladder and the three men descend to the ground.

Number of Men on Ladders

The following comment by Battalion Chief Thos. Larkin in charge of the New York Fire Department drill school, explains just what is expected of ladders in that department, and may be taken as a reliable guide for operations in fire service:

It would be well to state how many men should be allowed on ladders of various lengths. The number of men to be allowed depends on the length of the ladder:

Ladders 15 feet or less, 1 man.

20 feet up to and including 30 feet, two men.

35 feet and over, 3 men.

This rule to only be applied when climbing or stretching hose lines up ladders. When working on ladders 25 feet or less in length the pipeman is to be the only man permitted on the ladder. For ladders over 25 feet in length, the pipeman is to be at the top (or whatever position on the ladder where it is necessary to operate stream) and the officer is to be ten feet below the pipeman to direct his movement.

One man should be constantly at the butt of the ladder. The above refers to operation after the line is in position, and is intended to prevent unnecessary crowding of men on ladders who are not necessary in the actual operation of the stream; three men are sufficient to stretch a line up any ladder 35 feet or over in length and only one man is needed to operate the nozzle after the line is in position, and properly secured.

There are a variety of evolutions which can be performed by combining ladder work with stair work in stretching lines into buildings, but the only one that is treated in this chapter is stretching a line up a ladder and into a fourth-story window, then up a stairway to the fifth floor and operating stream out of window.

For this evolution the procedure is as follows: A 2½-inch line of hose is connected to the hydrant and stretched in as far as the building. The length of the first stretch will be

(*Continued on page* 833)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

WHEN Fire Department service was looked upon as a civic duty, as a hobby, as a form of recreation, as a substitute for a club and as a fertile field for sowing political propaganda, the firemen were provided with tools and apparatus, and then told to make themselves at home. After several months it was possible to acquire a Fire Department vocabulary and to become familiar with the names of the various implements in the fire station. But very little attention was given to the formal training of the men.

However, when the paid department was established and promotion was placed upon the basis of merit and knowledge, the firemen realized that they must secure a knowledge of the tools and how to use them.

Through the cooperation of state firemen's associations and state universities, short courses have been established in many of the states to train men who would later serve as drillmasters in their local department. In this way many of the latest ideas in training firemen have been carried to the smaller departments.

As a result of these courses there has been a keen interest in drill towers and smoke rooms where the men could be given the proper instruction. These towers are fitted up with appliances to provide actual fire fighting conditions. Each floor in the tower has its standpipe opening, window, stair landing, and so forth.

HERE IS THE PROBLEM

What equipment should be placed in a smoke room?

What equipment should be placed in a drill tower?

What instruction should the men be given at the drill tower and in the smoke room?

The problem in full that is treated in this issue appears in the box on this page. In the box on the following page is the question that will be considered in the next issue. Should you have any comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

Discussion of the Question

The training of firemen has become a serious part of the regular department work. A fireman properly trained is best fitted to carry out orders and in an emergency, to protect his life as well as the lives of others in danger. The replies received follow, and in many cases they describe in detail the instruction to be given:

Frank Charlesworth, Chief, Providence, R. I.: In my opinion, the smoke room should occupy the first floor of a modern drill tower (such as we have in Providence) with wired glass windows, two doors, a sprinkler system and ventilators for demonstrating purposes, and of course, materials for generating smoke and gases.

A modern drill tower should be equipped with a standpipe outlet on each floor with Fire Department connections on the outside and shut-off valves on each floor, fire escape, inside stairway, outside stairway leading to second floor, and scuppers on each floor to drain water.

Members in this department are instructed at the drill tower in the use of every piece of equipment in this department, also instructed how to operate all apparatus in the department. First aid should be given, and pompier ladders should be provided and used, if only from the standpoint of installing confidence in the men. Instruction regarding the operation of these ladders is very essential. This city is equipped at the drill tower with a 11,000-gallon underground tank, connected to the city water main for the testing of pumps and the instruction of the members in their operation. Instructions should be given at the smoke room regarding the use of gas masks, testing them and the dangers of certain gases, proper ventilation and the value of a sprinkler system.

F. J. Myers, Chief, Toledo, Ohio: First the construction of the smoke room itself should be given consideration. It should of course be built of fire-resisting material and when built as part of the drill tower, should occupy the first floor with doors at grade. Windows with heat resisting glass should be on two sides of the room to provide cross ventilation. These windows, while they will be air-tight when closed, should be of the French type and fitted to swing outward, so that in case of emergency, a man on the outside may readily open the window. Further, the room should have a fan or blower installed with a ventilator at the top which can be readily opened both from the inside and the outside. Attention should be given to the installation of the door which should swing outward, be quick and sure of operation, and without a keyed lock on it. The factor of safety must be paramount, for this room will not only be used for smoke but for gases, and ammonia may be tried out also.

The equipment that should be placed in the smoke room or used therein would include the canister type of gas mask, the fresh air type, and the contained oxygen helmet. A respirator of an approved make should also be included.

The equipment in a drill tower should confirm with all the tools and equipment that are carried by the department in actual service. The tower itself should be high enough so that the longest ladders may be raised upon it. It should be built with standpipe, and sprinkler system (to one floor), with outside pumper connections. The inside stairway should run up to the top and a fire-escape should be built on one of the outside walls. The grounds should be spacious enough to provide room for the several hose lay-outs and two fire hydrants and a cistern for suction by pumpers should be included.

Every member should be taught the proper way to handle Fire Department tools. It is especially desirable for all members of a department to be able to set up and man special apparatus, such as the water tower and aerial ladders. Sometimes at a large fire, the regular crew of such apparatus is engaged with some other operation and it may be necessary to operate these apparatus with a pick-up crew, so it is therefore necessary for all members to be thoroughly acquainted with the working of such apparatus.

Instructions should be given the men, not only as to

how an evolution should be carried out, but the particular advantages resulting from having it done in such a manner. They should be drilled not only until they become proficient in the use of all tools and equipment, but the drills should be held periodically. If not, it is surprising how "rusty" a man will become. Companies should be called to the drill tower at least three times a year, spending an entire day each time, going through the various hose lay-outs, ladder work, familiarizing themselves with the minor tools and appliances, and operating pumpers, etc. Besides these drills at the tower, company drills should be held each week at the different fire stations under the supervision of the company officers. The drills will naturally be confined to those seasons when it is permittable to carry on this outside work, but during the winter months the companies should hold classes and discuss the several problems of hose lay-outs, location of hydrants, size of water mains and handling of a supposed fire in some building in their district. In connection with this part of the work, it would be to advantage to take up the several interesting problems set forth in FIRE ENGINEERING and make the line of study conform to the work set forth by the International Association of Fire Chiefs.

As to the instruction given the men at the smoke room, I would, besides having them thoroughly familiar with the several types of masks, instruct them in applying artificial resuscitation and the several methods of transporting the injured. Here too, we could take up the subject of ventilation and demonstrate the difference between heavier and lighter than air gases.

In conclusion, I believe no instructor should hold a stop watch during ladder evolutions. It is of much more importance to have the work carried out by good team work, every man doing his bit without confusion and delay, and not race through it in a manner that would be conducive to the loss of life or limb. Safety and surety of operation are more to be desired than the consideration of split seconds.

Thomas J. McCarrick, Chief, Revere, Mass.: If I were to build such a structure, I would be inclined to favor a so-called smoke house that might be used to demonstrate the actual fire influences and characteristics of the various inflammables and chemicals now encountered in the fire service. The equipment to be placed in a smoke room, in my opinion, is secondary to the construction of the structure. A building and its equipment, similar to that used by the Factory Mutual Laboratories, Everett, Mass., is in my opinion, the most practical type of structure that might be used for general testing and training. I believe that the cost of erecting and equipping such a building would be inexpensive and I am sure that it would be of interest to many fire chiefs if the above named organization would submit for publication a detailed plan of their structure.

We place no portable equipment in our drill tower, except old hose. Our policy is to use the apparatus and equipment, and during the period of the drill, that particular piece of apparatus is placed out of service. However not more than one piece of apparatus is placed out of service at one time, and if it so happens that an alarm is received while at a drill, the apparatus is immediately restored to service and remains in service until the recall is sounded. I believe, that the men become more familiar with the tools and their location on apparatus if they are required to work under such conditions.

Department rules require the following in connection with drill activities: The use of all fire appliances and apparatus; fire fighting methods under different conditions; fire prevention; first aid principles and general hygiene; the water, street and alarm systems and the building laws of the city.

1. Raise 55-45-35-30-foot ladders and dog.
2. Stretch 2½-inch line from hydrant over 30-foot ladder.
3. Single pompier ladder work to fourth floor.
4. Raise and carry 30-foot ladder to different position.
5. Life net jump 25 feet.
6. Approved knots, clove hitch and bowline.
7. Use and operation of all appliances.
8. Stretch line from hydrant over 20-foot ladder and via stairs to roof.
9. First aid talk and prone pressure method of resuscitation, use of inhalator.
10. Talk on discipline.
11. Stretch line from hydrant and operate Bresnan Distributor.
12. Remove burst length of hose under different conditions.
13. Connect pump to hydrant.
14. Raise 30-foot ladder to roof and lower.
15. Raise line of hose to roof and lower.
16. Talk on fire prevention.
17. Talk on ventilation.
18. Talk on general fire fighting.
19. Talk on salvage and overhauling.
20. Carry 16-foot roof ladder to roof and place in position.
21. Stretch two lines to deluge set and start water.
22. Stretch line to various cellar pipes and start water.
23. Stretch three lines to turret pipe and start water.
24. Stretch two single lines from pump and start water, 200 feet each.
25. Stretch single line from hydrant and start water, 200 feet, follow up by connecting pump and operate two lines 200 feet each.
26. Operation of reducers and adapters.
27. Talk on care of apparatus and appliances.
28. Operation of pumps, talk by Department Mechanic.

All lectures to be by the Drill Master or one whom he may designate.

Mental drills should be held daily, except on Saturdays, Sundays and holidays, between the hours of 1 p.m. and 2 p.m. during the months of October to April. The following points should be covered in all mental drills:

1. The exact location of all fire boxes.
2. The exact location of all public buildings.
3. The location of all city streets.
4. The approximate location of a building when only the number is known.
5. A thorough understanding of all rules relative to station duties and the conduct of men in stations.
6. The location of fire hydrants throughout the city.
7. A general knowledge of the size and location of water mains throughout the city.
8. A practical knowledge of department rules and regulations.
9. The assignment of apparatus on first and subsequent alarms.
10. All rules governing the mutual aid system.
11. A round table discussion on general fire fighting, ventilation and other matters that might be for the general good of the department.

Any question asked, or answer made, by any member must be treated with respect, irrespective of the personal opinion of any members.

John L. Casey, Chief, Abington, Mass.: In this town we are not equipped with a regular smoke room. We use the basement of the fire station for such work. The room is constructed of concrete floor walls and ceiling. A metal wash tub is used to build a fire of paper, damp excelsior and sulphur. This is not used as an endurance test, the men are allowed to stay only as long as they would perhaps take to perform the work that would be called for at a fire such as locating the seat of the blaze or for locating persons who might have been overcome, or for opening windows for ventilation.

(*Continued on page* 833)

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Do you believe it wise to attempt to abolish Fire Department parades? Why?

What measures do you follow to facilitate fire alarm response in the event a fire occurs while the men are on parade?

Must the men provide their own dress uniforms or how are they purchased? How often?

With the Editor

The Havana Convention

While the convention of the International Association of Fire Chiefs was a success in all respects except numbers, it brought prominently to the fore the lesson that it is a mistake to hold the yearly gatherings of the association at such remote points. The attendance at the Havana convention was a little over three hundred Chiefs, and there is no doubt that if it had been held at some city in the United States more readily accessible, there would have been a far greater number present.

This matter brings up the equally important question of the association's finances. A reduction of some two hundred or more in attendance at an annual convention is a most serious matter in lessening the income of the body through the loss of the registration fees involved. The work of the association and the prosecution of its very important program of education—important not only to the actual members but also to the fire-fighting profession at large—must depend for its funds to some extent upon the proceeds of the registration fees taken in at the conventions. If, then, the attendance is reduced so largely as at the Havana gathering, there must, of necessity, be a lessening of the revenue received by the association and the program must inevitably suffer.

The work is too vital to allow of any letting up in its prosecution. This fact must be taken into consideration in the choosing of the convention city by the association. All things being equal a city should be chosen that will ensure a full attendance of Chiefs.

Observance Of Fire Prevention Week

Fire Prevention Week has come to be considered as a permanent institution. The observance this year, judging from innumerable accounts received at the offices of FIRE ENGINEERING, was more general and more earnest than ever before. A large number of the Governors of states issued special proclamations urging the people to observe the week by examining their homes and places of business for spots that were dangerous and apt to be fire breeders, and eliminating all such hazards. Fire Departments large and small in the length and breadth of the land devoted much time during the week to bringing home to the people the dangers of fire and the need for fire prevention. Civic and other associations, Chambers of Commerce, and the like lent their aid and cooperation in this object, and pupils of the schools were active in work for the cause.

In every way, marked enthusiasm was evident and if the public of the several cities and villages in which the observances were held were not reminded of their duty in the matter of fire safety, it certainly was no fault of those having the observances in charge.

The very extensive part which the Chiefs and their departments have taken in these exercises and in the spread of the doctrine of fire prevention is of course to be expected, but is nevertheless very gratifying. It also proves that the American Fire Departments are alive to their responsibilities and to the need to stem the very heavy losses by fire which are so severe a drain upon the resources of the country. It must not be forgotten, however, that the work should be continued with unabted zeal, and that every week should to the Fire Department be Fire Prevention Week!

Chasing the Fire Apparatus

A very troublesome problem that the Chief must deal with is that of the motorist who follows the Fire Department to fires and quite often tries to get to the blaze before the apparatus. Not only is this practice productive of accidents through collisions with the fire engines, but also, when a large number of automobiles join in the "procession" when the alarm sounds, the work of the firemen is badly hampered and the apparatus prevented from getting to work quickly. In one large fire in Westchester County, New York—a spectacular one, in which the smoke and flames could be seen for many miles—the roads approaching the scene of the fire were so badly conjested with cars that the later arriving companies could not get their apparatus through to assist.

In one mid-Western city the Mayor has issued this order to his Police Department:

"Arrest every autoist who follows within 300 feet of the fire apparatus on the way to the fire; every autoist who fails to obey the law which requires autoists to pull to the right side near the curb when the fire apparatus is approaching, and arrest every autoist who parks his car within the block while the fire is in progress."

The mayor, in commenting on this order, said that the Fire Chief of his city had informed him that the apparatus answering an alarm of fire traveled at a speed of forty miles an hour. Therefore, the Mayor remarked, "Anyone beating or even maintaining a position behind the apparatus is violating the speed limit," and is liable to punishment.

The Fire and Police Department of cities and towns should be prepared to enforce the rules forbidding the following of fire apparatus without fear or favor. If it is once understood that this offense is one that in which the offender cannot be excused, no matter who he is or how prominent his position, and that no amount of influence will count in remitting the punishment for the violation, it will be much easier to put a stop to the practice. A few severe punishments for the offence will quickly put an end to the problem.

Chief Charles W. Ringer to Resign

Chief Charles W. Ringer of the Minneapolis Fire Department, a member of the department for forty-eight years, will resign from the service.

Chief Charles W. Ringer

Although he had been contemplating such a step for some time, it was not until the City Council voted for the retirement of permanent pay roll employees who shall have reached the age of sixty-seven by February 1, 1932, that he made the public announcement of his retirement. He wants to retire on January 1, his seventy-first birthday.

Chief Ringer has been head of the department for twenty-one years. He is a member of the International Association of Fire Chiefs and was elected its President in 1922. Chief Ringer, after he has retired from the service, plans to enter private business in the promotion of fire fighting appliances of which he is the designer. He is well known for his smoke ejector which was used so successfully at the recent Chicago tunnel disaster in clearing the underground passages for later rescue work.

CORRESPONDENCE

Difficulties of the Low Flying Air Pilot

To the Editor:

In your issue of September 30 on the page entitled "With the Editor," I notice an Editorial on "The Menace from the Air," in which you mention the hazard of the low flying air pilot.

I am a bit of an enthusiast of aircraft myself, although I also hold a sort of honorary position of Fire Chief on our Farm, and I am wondering whether the author of this article has ever flown through a heavy fog, which is hanging close to or on the ground.

The rules and regulations of the Department of Commerce are to the effect that over a thickly populated district, the pilot must fly at such a height, that in case of an engine failure he would be able to glide out beyond the densely populated district into the open ground, which, of course, reduces all danger of landing in the thickly populated district, except in a case of structural failure of the aircraft, which under ordinary flying conditions, practically never happens.

However, when one gets into a dense fog and is wondering where he is, with his gas running low, and it becomes more and more essential to find a landing place, he is coming down lower and lower in the hope of being able to see through the fog and get his bearings or finding a safe place to make a landing. Although I don't believe the author meant to censure the air pilot, we must remember that self preservation is one of the first laws of life, and under the circumstances, I can hardly blame the air pilot for low flying in those conditions. However, I do thoroughly appreciate the menace he is to those on the ground, and the chances he is taking on his own life by being up in such weather at all.

Yours truly,

D. W. NORRIS,
Fire Chief, Norris Farm, Mukwonago, Wis.

North California Firemen Meet

Several state officials were present at the quarterly meeting of the Northern California Firemen's Association that was held in Redding, September 27. There were 126 firemen, rangers and officials present.

L. S. Bush, Engineer of the Fire Underwriters of the Pacific explained how fire insurance rates were determined. Chief Otto B. Miller of Williams read a paper on fire protection in rural districts. W. K. Palmer, Secretary of the Oroville Fire Department had a part on the program.

During the day there was a parade, and the meeting ended with a banquet at which a number of after dinner speeches were made.

Tennessee Firemen Hold Convention

An interesting program was arranged for the first annual convention of the Tennessee Firemen's Association that was held in Nashville, Tenn., September 21-23, at the Andrew Jackson Hotel.

The following papers were presented:

"Oil and Gasoline Hazards," by Chief C. M. Johnson, Knoxville, Tenn.

"Ventilation," by Clarence Goldsmith, Assistant Chief Engineer, National Board of Fire Underwriters, Chicago.

"Volunteer Fire Department," by Chief Theodore C. Stehr, Humboldt, Tenn.

"Arson," by Harry S. Avery, Chief Investigator, State Fire Marshal's Office.

"Electrical Hazards," by R. K. Dingledine.

"Fire Department Minor Equipment," by S. G. Render, Secretary, Kentucky Firemen's Association.

"Chemistry of Fire," by Prof. James M. Breckenridge, Department of Chemistry, Vanderbilt University.

"Salvage Work," by Harry K. Rogers.

A banquet was arranged in the Andrew Jackson Hotel on Tuesday evening and special entertainment was provided for the ladies during the convention.

The new officers are H. Ross Bridges, Athens, President; C. M. Johnson, Knoxville, Executive Vice-President; Theodore C. Stehr, Humboldt, W. J. Tomerlin, Springfield and W. R. Collin, Bristol, Vice-Presidents; Joe J. Martin, Nashville, Secretary-Treasurer, and W. D. Rogers, Nashville, Historian. The next convention will be held in Knoxville, the date to be decided later.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Rogersville, Pa.—George Myers.
Northfield, N. J.—Fred Lehman.
Minden, Neb.—Olaf Johnson.
Mt. Holly, N. J.—John Throckmorton, Jr.
Fort Lee, N. J.—James Wood.
Delmar, Ia.—Ray Sleeper.
Fontana, Wis.—William Schroeder.
Port Jefferson, N. Y.—Raymond Davis.
Wagoner, Okla.—L. M. Horsman.
Yorba Linda, Cal.—W. H. Barton.

Mt. Lebanon, Pa., has placed an order for a Pirsch 750-gallon pumper and for a Seagrave city service truck.

Steps have been taken in Rogersville, Pa., towards the formation of a Fire Department. No action has been taken for the purchase of fire apparatus.

Yamhill, Ore., is considering the formation of a Junior Fire Department. Chief Reimers is advocating the plan and believes that the boys will receive a great deal of practical training.

Sanford fire apparatus has been delivered recently to the following municipalities: Kerhonkson, N. Y., Brewerton, N. Y., Altmar, N. Y., Adams Center, N. Y., Schenevus, N. Y., Union, N. J., Lawrence Roads, N. J., Great Bend, N. Y., Sherwood Park, N. Y., Cornwall, Conn., and Easton, Conn.

A Junior Fire Department has been started in Corbin, Ky., composed of boys of high school age. It is intended that the new group will aid in community work. The junior organization is being sponsored by the city Fire Department. The boys will answer fire calls and will assist at police and traffic duty.

At a meeting of the Indiana Firemen's Association held in Marion, Ind., at which sixty-five Fire Department representatives were present, the question of the management of pension funds was discussed. The meeting was the first held since the last session of the legislature. The proper investment of pension funds was stressed.

THE COVER ILLUSTRATION

In addition to the regular water distribution system, the larger cities have a special high pressure water system that is used to supply high pressure streams from the hydrants. Wherever a high pressure system has been installed, the city officials are keen to display its ability to prominent visitors. When the members of the New England Water Works Association assembled in Boston for their annual convention, the Fire Department treated them to an unusual fire stream demonstration as illustrated on the cover.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Flow From Small Nozzle

To the Editor:

Will you kindly inform me if my method of determining g.p.m. flow from a 1-inch diameter nozzle is correct, as follows:

Pitot tube blade placed in stream flowing from nozzle registers 50 pounds pressure on gauge attached:

$30 \times 1'' \times 1'' \times \sqrt{50} = 30 \times 1'' \times 1'' \times 7.07$

$= 212.10$ U. S. g.p.m. flowing.

H. F. J.

Answer: Your calculations are correct. Slightly more accurate results may be secured by using 29.7 in place of 30 in your formula, although the latter figure is the more widely used one because of its simplicity.

Table values show the discharges from a 1-inch nozzle at 50 pounds pressure to be 209 gallons per minute.

Using 29.7 in the formula, the discharge solves out to be 209.979 or 210 gallons per minute. However, your solution, as noted above, is substantially correct.

Testing Fire Hose

To the Editor:

Will you please tell me the proper method of procedure in testing new fire hose. I would like to know in detail the maximum elongation and also what right and left turns are allowed.

G. A.

Answer: On the testing of fire hose the following may be said:

In purchasing fire hose many cities, including New York, set a limit on the amount of elongation and twist permitted in hose under test pressure. For instance, in one city, specifications allow 54 inches elongation and not more than two revolutions of twist for a 50-foot section of 2½-inch hose submitted to a pressure of 400 pounds per square inch.

Some authorities contend that it is bad practice to limit elongation to 54 inches, as the hose constructed to meet such requirements must necessarily be made of larger bulk in the fabric by using middling grade of yarn rather than sea island cotton or grades approximately of this standard, because the best cotton is the most elastic and of course the fabric is woven up with the highest grade yarn and the tendency to stretch will be greater.

A hose that would stretch 108 inches without twisting more than two turns must be well constructed mechanically and the yarn must be of the very best quality to permit such a stretch under 400 pounds pressure, and come back nearly to its normal length of 50 feet in a test of a single section of hose. This, according to the above authorities, is a remarkable performance and any one using such a hose should have no anxiety whatever. But it is questioned whether such a high quality hose could be produced with yarn of the present day product. The principal objection to so-called extensive elongation is on account of the tendency of such a hose to twist four, five or even six turns, but if this tendency to twist can be resisted, it is decidedly a very great advantage rather than being objectionable. Such a hose would only be lined, of course, with the very highest grade of rubber tubing.

On the other hand, other authorities are of the opinion that double-jacket fire hose which, under 400 pounds pressure will elongate more than 54 inches, shows very clearly a weakness in manufacture. Other arguments they advance follow: In addition to the first defect, it is rather cumbersome to handle.

To illustrate this statement, it would be hazardous, when operating a three or four hundred-foot line of hose on a ladder, to have the pressure released and the hose in turn contract more than 54 inches. Again, it would be almost impossible to manufacture a hose which would show no elongation under 400 pounds pressure. Another manufacturing weakness would therefore be shown if the hose in question showed no twist or elongation. It is for this reason that certain limits should be prescribed.

Regarding the subject of twist, all fire hose couplings are designed with a right hand thread. It is therefore necessary that any twist in the hose take place toward the right, otherwise the hose might uncouple itself. Too great a twist makes handling of the hose rather troublesome, as in the case of elongation. A double-jacket fire hose which, under 400 pounds pressure, shows no expansion has no practical value, inasmuch as the slightest overload in pressure will disrupt the hose. It is therefore necessary that a slight degree of expansion be present. Too great an expansion shows a manufacturing weakness, in that the hose would be short-lived. For this reason certain limits of expansion under 400 pounds pressure should be prescribed.

A Deck Gun Problem

To the Editor:

Your solution of the following problem will be greatly appreciated. A 1,000-gal. type pump is pumping through a single-line of 2½-inch hose 350 feet in length, which is connected to a deck pipe, equipped with a 1¾-inch tip. A 750-gal. type pump is also pumping into this deck pipe, through the same size hose and same length of hose. What engine pressures are necessary to maintain 75 pounds nozzle pressure. What is the discharge from each pump.

K. R.

Answer: The simplest way to solve this problem is to assume the same pressure at each engine and then calculate the nozzle pressure. The variations possible between the two engine pressures might be infinite, that is, the same nozzle pressure might be secured where any number of different pressures at the two engines were employed, but the most sensible way of handling the problem is to assume that each engine is operated at the same pressure and then solve for this common engine pressure.

The elevation of the nozzle on the deck gun is about 9 feet above the street so that we will assume that this back pressure must be overcome in addition to the friction loss in the hose.

The value of "K" for two parallel lines of 2½-inch hose feeding 1¾-inch nozzle is .242.

E. P. = N. P. × (1.1. + K. L.)

"L" in this case is the number of 50 foot lengths in either one of the parallel lines, or 7.

Then E. P. = 75 x (1.1. + .242 x 7)

= 75 x (1.1. + 1.694)

= 75 x 2.794, or 209.55 pounds.

To this must be added the back pressure due to the elevation of the nozzle, or 9 × .434 or 3.9 pounds.

The correct engine pressure is then 213.45 pounds which, incidentally, is the pressure at each of the engines.

Pumper Performance

To the Editor:

Will you please answer the following question?

A 1,000 gallon pumper is taking water from a hydrant which has 75-lbs pressure and is fed from an 8" main with a 2½" outlet from hydrant, and 4½" suction to

pumper. Three 2½" lines are taken from pumper, each of 550 feet length.

What size nozzle tips should be used to obtain an effective fire stream? What should engine pressure be? Also nozzle pressure?

B. B. C.

Answer: In the layout such as you give, one and one-eighth inch nozzle would be most suitable. With this size tip, 50 pounds is about as much pressure as you would ever require. Such pressure gives satisfactory stream without excessive spraying, and enables the men to use the line without difficulty.

Assuming, therefore, that 1⅛ inch nozzles are used and the nozzle pressure is to be 50 pounds, the engine pressure will be equal to the nozzle pressure plus the friction loss in the hose. The discharge from a 1⅛ inch nozzle at 50 pounds pressure is 265 gallons per minute. With this flow, the friction loss in 100 feet of 2½ inch hose is approximately 17 pounds.

The engine pressure would therefore have to be 17 x 5.5 + 50, or 143½ pounds. In the preceding, the length of the hose line is 550 feet and the friction loss is 17 pounds per 100 feet. The friction loss is therefore 17 x 5.5.

This same engine pressure would apply to all three lines. The total discharge with this arrangement, from the three nozzles, would be 3 x 265 gallons per minute or 795 gallons per minute. The 1,000 gallon pumper could easily handle this discharge, being helped as it is by 75 pounds hydrant pressure.

Havana Convention Successful

(*Continued from page* 820)

work of the Florida Fire College held this year, and concluded that the fire college as administered at present is most successful.

"Fire fighting has truly become a profession, and upon the training and judgment of the men in the fire service depends the safety, not only of our cities, but of the lives of our people," said Chief Anderson. "The men in the large cities have been able to get this necessary training, due to the fact that they have the money to set up drill schools with trained drill masters. But it is not so with the small town departments. Quite frequently the only information they have about some new device or hazard has been secured from one of the fire department journals. Frequently the head of a small town fire department is appointed who has not had previous experience in this line of work, and has no way of acquiring the necessary knowledge, outside of the fire college."

In the absence of Chief M. J. Corrigan, of Chicago, Ill., his paper on "Rescue Equipment at a Difficult Fire," was read by President Joseph Sullivan. Chief Corrigan outlined in a very detailed manner the tunnel disaster which the Chicago Department had to handle early this year and included suggestions as to the handling of similar difficult situations. The value of the smoke extractor in clearing the tunnel of smoke, to enable rescue of those imprisoned, was described by Chief Corrigan.

Greetings from Firemen

Following Chief Corrigan's paper, President Sullivan introduced George J. Richardson, Secretary-Treasurer of the International Association of Fire Fighters, who extended the greetings of his Association to the International. The firemen's organization has at present a membership of over 30,000 and has been doing considerable constructive work of material benefit to all those in the fire fighting profession. Among these activities may be cited the tabulation of data on salaries, etc.

Trend in Fire Protection

One of the feature papers of the convention was that delivered by George W. Booth, Chief Engineer, of the National Board of Fire Underwriters, on "The Present Day Trend in Fire Protection." "There has not been, in very recent years, any remarkable change in fire fighting equipment," said Mr. Booth. "Improvement in quality and reliability of pumpers was very marked during the first few years after their introduction; in recent years the development has been in the direction of a greater range in capacities; from the small, single stream pumper to those rated at a thousand gallons a minute and having considerable reserve beyond that."

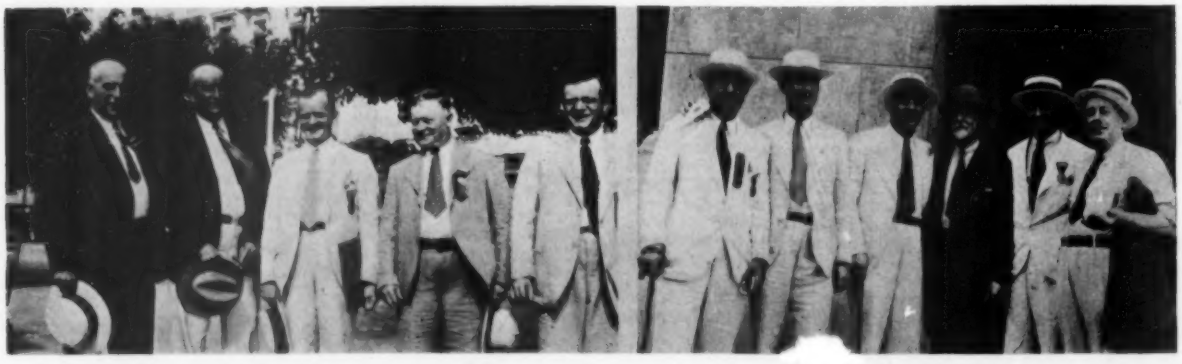
He also outlined the growth in popularity of the booster tank, the extension of fire service to out-of-town communities, and the growth of the fire district plans for affording fire protection to rural sections. The development in the chemical equipment was also described, as well as the fire protection problems incidental to the airplane industry. Salvage work and fire schools also came in for their share of comment.

Lighting the Fire Grounds

In his talk on "Lighting up the Fire Grounds," Chief Henry A. Fox, of Boston, Mass., strongly endorsed the present tendency to afford the department illumination at night operations. The substance of his paper is well expressed in the following quotation therefrom; "Light up the fire ground, and you will prevent the building from lighting up itself."

The problem of estimating fire losses was discussed by Oliver T. Sanborn, Chief of the Fire Department of Portland, Me. He called attention to the difficulty of arriving at any accurate figures and explained the discrepancies which are commonly found between the estimates of the fire department and those by other organizations.

Chief James McMillan, of Orange, N. J., presented a paper on "Heading off Holiday Fire Hazards." He outlined the methods followed in his city for checking holiday fires in the mercantile district and particularly during the holiday rush and also at public entertainments usually held during the holiday period.



Almost Everybody Blossomed Forth in "Ice Cream" Suits at the Havana Convention

Left—A few of the I.A.F.C. officers. Left to right: Chief J. N. Sullivan, Utica, N. Y., retiring President; Chief D. W. Brosnan, Albany, Ga., newly-elected President; Chief Richard Smith, Pittsburgh, Pa., new First Vice-president; Chief R. Gauthier, Montreal, Director; Fred. Shepperd, Headquarters Manager.

Right—Part of the California delegation. Left to right—Chief Louis Almgren, San Diego (next year's convention host); Chief Ralph Scott, Los Angeles; Chief E. F. Coop, Pasadena; Chief W. E. Parker, Monterey; Frank S. Hirsch, Los Angeles; Chief C. M. Hirschey, Hillsborough.

Heat or No Heat, There Were Smiles Everywhere at the Havana Convention

Left to right, Jay W. Stevens, Executive Sec'y I.A.F.C.; Geo. W. Booth, Chief Eng'r. Nat'l Board Fire Underwriters; Frank Cushman, Chief, Industrial Educational Service, Federal Board for Vocational Education, Washington, D. C.; Dep. Chief L. Conley, Pittsburgh; Chief Frank Charlesworth, Providence, R. I.; Chief Geo. W. Hedden, Buffalo, N. Y., I.A.F.C. director; Jos. H. Green, Pres. Eureka Fire Hose Mfg. Co., N. Y.; Asst. Chief Jack Raffo, Richmond, Va.

He emphasized the necessity of an educational campaign to forewarn the public of possible hazards. "Firemen who have been trained to talk on such should visit the schools, factories (during lunch hour periods), luncheon clubs, industrial shows, etc., at least once a week in advance of the Holiday season, for, after all it is the educational campaign, that puts across the message of Fire Prevention best," said Chief McMillan.

The final paper on the Thursday morning program was that by John Towey, Chief of Newark, N. J., who spoke on "Essential Drills for Modern Departments."

After pointing out the value of drills, Chief Towey listed those drills which he considered essential to the modern department.

Thursday Afternoon Session

The Thursday afternoon session opened with a paper by Chief Charles A. McGinley of East Orange, New Jersey, who spoke on "Training the Men in First Aid Work." Included in this work are prone-pressure treatment, treatment for gas poisoning, drowning, electric shock, physical shock and other injuries commonly encountered at fires. Chief McGinley has had incorporated in the book of Rules and Regulations of his department instruction on first aid work, such as can be applied by members of his department.

"Rendering Aid to Neighbors," was the next topic and was presented by Peter Steinkellner, Chief of the Fire Department, Milwaukee, Wis.

Chief Steinkellner first called attention to the legal obstructions which in many cases prevent the rendering aid to outlying communities. Subsequently he outlined the methods employed by Milwaukee. This paper was discussed by Chief Brennan of Pelham Manor and several other delegates.

The lessons of an asylum fire were outlined by Chief Richard Lee Smith, of Pittsburgh, Pa., in his paper on this subject. Following a detailed description of the early stages of an asylum fire which occurred in his city this year, and the delayed calling of the fire department, the steps employed in operating on the fire and in rescuing inmates, as well as rendering first aid, were outlined. Some of the recommendations made to prevent loss of life in public institutions of this type were made by Chief Smith as follows:

"All floor openings such as stairways and dumb-waiter shafts should have been enclosed and protected in a standard manner.

"Better exit facilities should be provided. Smoke barriers and draft stops consisting of light partitions and swinging doors would have served to retard the spread of smoke and flame for a sufficient period to permit safe egress.

"Concealed spaces caused by false ceilings, etc., should be eliminated as they permit flames to spread unnoticed. Under no circumstances should storage closets or cupboards be located underneath stairways.

"Unventilated closets are no place for the storage of cotton mops, oily rags or other material that may cause spontaneous ignition.

"Institutions of this character should be protected by an automatic fire alarm system, instead of a hand pulled bell as was used unsatisfactorily in this Home.

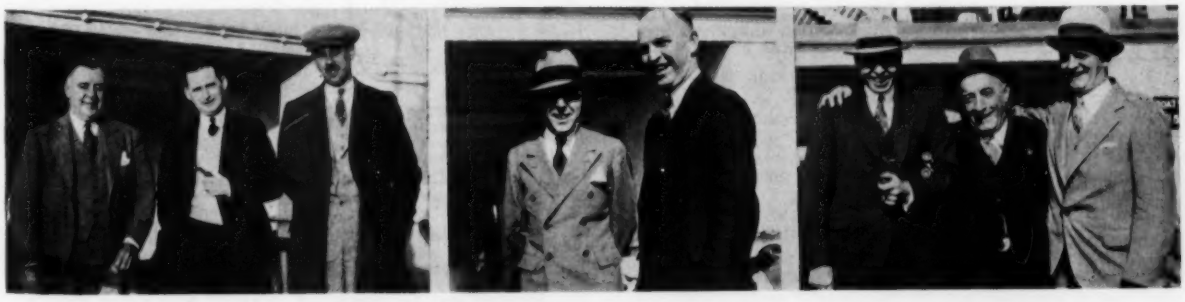
"Infirmaries of such institutions should be on the ground floor and facilities provided for quickly removing the infirm patients.

"Night watchman service is necessary in institutional buildings of this kind."

In discussing Chief Smith's paper, Chief Steinkellner expressed the belief that if chiefs were properly protected in their respective positions, they could accomplish a great deal toward eliminating fire hazards in public institutions. Where such protection is not provided, however, the chief, in many instances, is handicapped in ordering corrections, and in seeing that they are carried out.

The last business on Thursday afternoon's program was a report of the constitution revision committee of which Chief Peter Steinkellner is Chairman. He recommended a change in the constitution to provide a Board of Directors composed of the Presidents of the eight district organizations and the President, and First and Second Vice-Presidents of the International Association.

After considerable discussion, a motion was made and carried that the report be held over until the next convention for further action.



On the Good Ship "Scythia," Homeward Bound from the Havana Convention

Left to right, Joe Webber, Boston Mgr., J. J. DeLaney, Traffic Mgr., and A. G. Sullivan, Motor Apparatus Sales Mgr., American-LaFrance Co.; Paxton Mendelssohn, well-known fire fan, and Ed. Rumsey, F. D., Master Mechanic, both of Detroit; F. R. Van Rensselaer, Vice-Pres. American-LaFrance Co.; Assistant Chief Jack Raffo, Richmond, Va.; Chief R. L. Smith, Pittsburgh, Pa.

On the Boat to Havana, New Englanders Who Rarely Miss an I. A. F. C. Convention

Left to right, Chief E. F. Dahill, New Bedford, Mass.; Maj. F. J. Abbott, Tilton, N. H.; Chief C. A. French, Manchester, N. H.; Chief F. A. Clark, Attleboro, Mass.; Harry Carlow, Taunton, Mass.; Cheif D. A. De Courcey, Winchester, Mass.; Chief A. Montmeny, Chicopee, Mass.; Geo. Cobb, (N. E. Traffic Mgr.); Chief C. L. McCarthy, Worcester, Mass.; Chief A. J. Cote, Woonsocket, R. I.; Chief Henry A. Fox, Boston; Chief F. C. Charlesworth, Providence, R. I. (Somehow or other, Chief George L. Johnson of Waltham, Mass., seems to have kept out of the camera's range—but who doesn't know George!)

Friday morning's program opened with a paper by Hubert J. Treacy, Chief of the Bureau of Repairs and Supplies of the New York Fire Department. Chief Treacy discussed the subject of traffic congestion, and suggested methods on reducing it. He also described fully the procedure in purchasing apparatus and equipment in New York, as well as testing such apparatus and equipment. Included in his paper was a list of equipment employed in New York, which includes 283 pumpers, 160 ladder trucks, 126 hose wagons, 99 automobiles for officials and officers, as well as a lot of other miscellaneous apparatus and equipment. Suggestions for the proper maintenance of apparatus were also included.

The report of the Board of Auditors, Chief Bogan, Chairman, was presented and accepted.

Secretary Mulcahey reported that the total registration of active members at the Havana meeting amounted to 335.

Report of Committee on Courtesies extended by the City of Havana was presented and adopted as well as a resolution on the cooperation afforded by the Federal Board for Vocational Education. The latter resolution follows:

Whereas—The International Association of Fire Chiefs, has for several years been giving careful study to the problem of developing the best methods of organizing and operating efficient training programs for officers and men of fire departments, and

Whereas the Association has received assistance of the greatest value from the Federal Board for Vocational Education in cooperation with the Educational Committee of the Association, and

Whereas the Federal Board for Vocational Education has caused to be made and has published and made available to fire departments generally its bulletin 155 which contains a complete and scientific analysis and discussion of the problem of vocational training for fire departments, therefore be it

Resolved: That the International Association of Fire Chiefs in Convention assembled at Havana, Cuba, extend to the Federal Board for Vocational Education its sincere appreciation of the assistance extended to it in advancing its educational program and be it further Resolved that a copy of this resolution be forwarded with a personal letter to each member of the Federal Board and also to the Directors of the Board at Washington, D. C.

Secretary-Treasurer Offices Combined

The following resolution relative to a change in constitution covering the offices of Secretary and Treasurer was presented:

"In consideration of the present unsatisfactory financial condition of the International Association of Fire Chiefs, and with a view of making certain changes designed to improve and stabilize the Association's financial set-up, the following resoluton, presented by Chief James J. Mulcahey at a special meeting of the Board of Directors held at the Plaza Hotel, October 15, was approved by the Board and is hereby submitted:

"Resolved: 1st. That the offices of Recording Secretary and Treasurer be consolidated into a single office.

2nd. That such routine work as is now carried on by the Secretary's office be transferred to Headquarters office at 24 W. 40th Street, New York City.

3rd. That the office of Secretary-Treasurer be created, to be filled annually by election at the Annual Convention.

4th. That no salary be attached to the office of Secretary-Treasurer.

5th. That no salary be attached to any other office of the Association."

The preceding resolution was widely discussed and when put to vote was carried. As it had been presented at a previous meeting the day before, its passage at the Saturday session was in accordance with the constitutional requirements and as a result becomes a part of the constitution.

San Diego Next Year

Chief Ralph Scott of Los Angeles, Cal., who has been delegated to invite the Association to San Diego for its Convention next year, extended a very hearty welcome to the delegates, and pointed out the advantages of meeting in San Diego. The Olympic games will meet in Los Angeles next year during the summer months, and the delegates to San Diego will have the opportunity of witnessing some of the games.

As no other city had extended a formal invitation, San Diego was chosen unanimously for the next year's meeting place.

Election of Officers

The advancement of Chief D. W. Brosnan from First Vice-President to Presidency was carried unanimously, as was the advancement of Chief Richard Lee Smith from Second to First Vice-President.

Chief Selden Allen of Brookline, Mass., was chosen second Vice-President by unanimous vote.

Chief James J. Mulcahey was unanimously chosen as Secretary-Treasurer, following many laudatory remarks by officers and members of the Association on his generous move in advocating the discontinuance of salaries for himself and other officers of the Association as a move toward economy.

Following the last business on the program, Chief Joseph Sullivan, the retiring President, was presented with a purse of $95 which represented contributions directly from the members of the Association to him in recognition of excellent work accomplished during his year in the chair. It was felt that such a purse, being made up of small individual donations by the membership, would express the feeling of the convention better than would a check drawn on the treasury of the Association.

Entertainment

While the recreational features of the Havana Convention was well attended to by the Havana authorities, they in no way interferred with the excellent technical program. Wednesday night the city tendered the Association with a banquet held at the National Hotel which brought forth practically all of the delegates and their wives and friends.

On Thursday afternoon, the delegates visited the capital, and in the evening were treated to a buffet dance and typical show at the Plaza Hotel. On Friday afternoon they were taken on a sightseeing trip through the city and surrounding country.

No evening sessions were held, and very wisely so, as the intense heat at Havana made necessary the elimination of long periods of work. Leisure in the evening was surely necessary for recuperation from the arduous work during the day.

The balance of the report, including several snapshots of the convention, will appear in the November 11 issue of FIRE ENGINEERING.

The Volunteer Fire Department

(*Continued from page* 824)

determined by the location of the hydrant. If in a drill yard, 150 feet (three lengths) of hose make a desirable stretch.

At the base of the ladder sufficient hose is connected to the line to reach the point desired. This additional hose is left in a pile for the moment.

How to Estimate Amount of Hose Needed

To determine how much slack hose will be required to reach from the base of the ladder to the sill of the fifth floor window, via the stairs between the fourth and fifth floors, the following rules may be used:

Allow one length of hose for each three stories when laid on ladder; allow one length of hose for each floor when stretched up a stairway; allow sufficient hose to reach the fourth floor window to stairway and from the stairs on the fifth floor to the window.

In this evolution, assume that the stairway is but a few feet from the window. Then the amount of hose necessary may be calculated as follows: One length of hose on ladder (from ground to 4th floor is three stories); one length from 4th floor up stairs to 5th floor window; total, 2 lengths, or 100 feet. Therefore 100 feet of hose will have to be connected to end of hydrant line at base of ladder.

After the ladder is raised and placed against the building, and the hose is ready, an order is given to stretch the line.

No. 1 takes the end of the line and moves to the bottom of the ladder. He connects the nozzle on the line. No. 1 then places the nozzle over his right shoulder and starts climbing the ladder.

No. 2 takes his place in the center of the first length with the hose over his right shoulder and follows No. 1 on the ladder.

No. 3 stations himself back of the first coupling on the second length, with the hose on his right shoulder and the coupling in front of him.

No. 4 stands near the center of the second length and with the hose over his right shoulder.

No. 5 is back of the first coupling on the third length, with hose over right shoulder and coupling in front.

Each man, with the exception of No. 1 has a loop in front of him reaching from his shoulder down to his feet.

Nos. 1 and 2 climb to the top of the ladder, step on the sill and jump in on the floor and ascend stairway to the fifth floor, where No. 1 places the pipe on the sill and calls for water. No. 2 straightens the hose in the building and moves up to the pipe with No. 1.

In the meantime No. 3 stops at the top of the ladder, takes a leg hold on the ladder and lays a coupling on the sill. He then places the hose rope around the hose, back of the coupling and hooks same to the ladder.

No. 4 stops just above the center of the ladder, takes a leg hold on the ladder, puts on his hose rope, places his hook over a rung and takes the loop off his shoulder facing the ground. He lets his loop slip down the ladder until the hose rope tightens up.

No. 5 climbs about four rungs on the ladder and stops there until No. 4 lets down his loop. No. 5 then descends to the ground and removes his loop from his shoulder and straightens out the hose, puts on his hose rope and places hook over a rung about five feet up from the ground.

No. 6, as his task in the evolution, takes position at the butt of the ladder and sees that the hose lays straight against the ladder as the men ascend with the line. After No. 4 has started to ascend No. 6 runs back to the hydrant, and when No. 1 calls for water, No. 6 then opens the hydrant.

The evolution is completed when water comes from the nozzle.

Taking Line Down and Out of Building

When the order is given to take line out of the building and down ladder to ground, No. 6 shuts off water at hydrant. He then breaks line one length back from ladder. In doing this he straddles the hose, with his back towards the nozzle, and calls to No. 1 to relieve the pressure.

When No. 1 does so, the line is broken. Nos. 3, 4 and 5 thereafter take off their hose ropes (when the hose has drained), and the line is brought down the stairway and allowed to slide down the ladder until the pipe is at the top of the ladder.

In thus lowering the hose the men on the ladder feed it down, holding the couplings out so they will not strike against the rungs of the ladder. When the line is down so that the nozzle is over the top rung on the inside of the ladder, No. 5 at the bottom of the ladder picks up the hose, places it over his right shoulder and ascends about six rungs. At the same time No. 4 releases his leg hold, and descends about six rungs. Laying close to the ladder, he gets the hose on his right shoulder and ascends until he has a loop over his shoulder and down to his feet.

No. 1 then passes the nozzle over the top of the ladder to No. 3, who places it over his right shoulder, and then releases his leg hold on the ladder. The three men thereupon descend to the ground with the line. When they reach the ground No. 6 disconnects the nozzle.

Nos. 1 and 2 follow the others down the ladder. The line is then connected up again for the next operation.

The Round Table

(*Continued from page* 826)

We have no regular drill tower. Our drilling is performed on a four-story factory building, or a school building. We have no regular landing net, I believe, however, that one should be used under the drill tower for the protection of any who might fall in performing this work. We use the regular equipment of a ladder truck and engine company in this work.

The men are instructed in the use of all the equipment, how and when it should be used. The men are also instructed in salvage work, the use of the inhalator, first aid work and how to take care of themselves, and others in emergencies. In the drills with smoke masks the men are instructed to see that the masks are properly assembled and in proper working condition. When the masks are used at a fire we use two men with a hand line around the waist of the first man and attached to the waist of the second man who is about fifteen feet behind the first with a hand line from him to the men who are lying on the floor outside the heavy smoke. They are instructed to crawl on the floor and feel for any person who might be overcome on the floor or beds. Caution must be used that the mask will not strike any object so as to knock the face-piece off the wearer as this might cause a dangerous condition.

H. H. Wardleigh, Chief, Ogden, Utah: The following equipment should be placed in a smoke room: a metal container to build the smudge in, two standard gas masks, and one small rope or bell cord for the men in the smoke to signal with.

One tested life line, two pompier ladders, two life belts and one life net should be placed in the drill tower.

The men should be given the following instructions at the drill tower and in the smoke room: Not to go higher than they feel safe until they have confidence in themselves and the ladders; how to loop the rope on the hook so it will slip easily when sliding down; to be sure that the mask fits properly and that the breathing apparatus is in good working order; not to stay too long in case something goes wrong before signalling for help.

John G. Ford, Chief, Trenton, N. J.: One part of the smoke room should be so constructed in miniature floors and sections representing rooms, so that fires can be built therein and a demonstration made as to the value of ventilating at fires. The ventilating system should be so constructed, that fires can be mushroomed or carried off through skylights or other openings. Wired glass windows allow the observers to see the various operations.

The rest of the smoke room can be arranged so that smokes or fumes can be created therein and the practical demonstration of gas masks made and tested out by the firemen. It is also well to have a sprinkler pipe with a couple of sprinkler heads thereon for instruction purposes.

In the drill tower, or accessible for drill tower purposes, there should be every tool and appliance that is used in the department for fire fighting, and also scaling ladders, life lines, and belts for drilling purposes. A standpipe should be in the tower for instruction purposes, and platforms with holes in the centre for demonstrating cellar pipe and distributors. Fire hydrants should be near, and hose and all ladder work practice carried out by companies. Deck pipes can be mounted on rolling platforms and utilized. Instruction should cover every phase of Fire Department work to the smallest detail. At various times, instructions should be given on inspections, locations of hydrants, streets and other matters of value. First aid is also a prominent factor in a well regulated drill school.

R. E. Pitts, Chief, Tulsa, Okla.: Different types of gas mask, gas detectors and smoke bombs should be included in

the equipment in the smoke tower. Shutters that can be opened to demonstrate ventilation should also be provided.

In the drill tower the equipment should consist of standpipe and sprinkler system, stairway fire escape, inside stairway, display of manual equipment used in the department.

Men should be instructed in the proper use, names and care of all manual and automotive equipment in the department, in first aid, in rescue work, salvage operations, and modern fire methods of all kinds.

* * *

ANSWER TO PREVIOUS QUESTION

The following is in reply to a question on how many and what type of portable extinguishers are carried on fire apparatus:

J. J. Gilday, Chief, Hoboken, N. J.: We carry two 3-gallon extinguishers on the pumper, one soda and acid, and one foam extinguisher on the hose wagon. Each hook and ladder carries two 3-gallon soda and acid and two foam extinguishers. I don't know of anything that I could suggest as we get very good results from the present portable extinguishers. We do not service small size extinguishers used in homes for the reason that if anything went wrong the department would be held responsible. We do, however, explain and show them how the Fire Department charges and cares for the extinguishers.

THREE ALARMS SOUNDED FOR PLUMBING SUPPLY BLAZE

Fire Started in Region of Lumber Yards and Coal Pockets and Generated Large Volumes Of Smoke Which Hampered the Firemen

By HARRY BELKNAP

A SPECTACULAR blaze in the plant of the Daly Plumbing Supply Company on Cummings Street in the Roxbury section of Boston, Mass., on September 19 caused considerable damage and necessitated the sounding of three alarms.

Dense smoke hampered the operations of the department at the start of the fire which occurred in a region of lumber yards and coal pockets. The building involved was a one story frame structure with an "L" of two stories.

The flames originated in the basement and were raging fiercely when the apparatus arrived in response to the first

Fighting the Three-Alarm Blaze in the Roxbury Section of Boston

alarm. District Chief Edward J. Locke at once sounded a second alarm and soon afterwards a third alarm was ordered by Assistant Chief Henry J. Power.

The fire was under control within a half hour and the flames were confined to the structure in which they originated. Lines were directed from the street and from ladders and the roofs of adjoining buildings as well as from in-

Three Interested Spectators at the Fire

From left to right, Herbert J. Hickey, Executive Secretary, Boston Fire Department; Frank C. McAuliffe, Chief of the Chicago Fire Patrol and Peter E. Walsh, Superintendent of the Boston Protective Department.

side. This concentration of water soon drowned out the fire which was burning in a large stock of oakum.

American-La France motor pumping engines were used as the fire was outside of the high pressure area.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending October 16	Loss in Thousands of Dollars
DALLAS, TEX.—Seven airplanes of Van Cleave Co. at Love Field	30
RED BAY, ALA.—Whse. of Red Bay Warehouse Co. destroyed	25
SOPERTON, GA.—Soperton Hdw. Co. warehouse, adj. property	25
GRAND RAPIDS, MICH.—Property of Columbian Whse. Furniture Co.	50
TULARE, CAL.—Drayage garage of J. O. Bray, destroyed	50
MOUNT IDA, ARK.—Business property destroyed	45
BELLIS, ALTA.—Hotel, several stores and warehouse	25
LAWRENCE, NEBR.—Four business establishments destroyed	30
HOXIE, ARK.—Hotel Noble owned by Mrs. A. B. Gibson	100
FULTON, MO.—Griffith hatcheries destroyed	25
TROY, OHIO—Barn and dairy of "Resthaven" farm, destroyed	125
WAXHAW, N. C.—Town hall and several adj. buildings	25
PITTSBURGH, PA.—Bldg. occupied by Pittsburgh Engineering Works and others, damaged	25
HAZLEHURST, MISS.—Plant and equipment of Hill Chevrolet Co.	35
TIMMINS, ONT.—Rudolph & McChesney Lumber mill destroyed	45
CHARLOTTE, VT.—Plant of Sheffield Milk Co.	25
GRAND RAPIDS, MICH.—Store of Columbian Whse. Furniture Co.	100
ERIE, PA.—Stockyards of Shaffner Bros. damaged	45
ALBANY, TEX.—Albany Hotel, owned by Mrs. Ada McLemore	25
SARATOGA SPRINGS, N. Y.—Riley House on Lake Lonely	250
SYRACUSE, N. Y.—Plant and whse. of Delavan Corrugated Box Co.	150
GREENSBORO, N. C.—Whse. occupied by Greensboro Whse. & Storage Co.	45
DEXTER, ME.—Gerry block owned by L. C. Sheperd, destroyed	35
GALVESTON, TEX.—W. L. Moody Cotton Co. whse. and contents	500
BATAVIA, IOWA—Duncan cafe and Gordon hardware store	30
COHOES, N. Y.—Penrose & McInery brewery, destroyed	25
WATERLOO, IOWA—Ice plant of J. A. Young, destroyed	30
BEDMINSTER, N. J.—Property on estate of D. H. McAlpin Pyle	45
MINNEAPOLIS, MINN.—Storage sheds of Stewart Lumber Co.	80
MANSFIELD, OHIO—Plant of Martin Steel Products Co.	80
HOLYOKE, MASS.—A. T. Gallup store damaged	50
DENNISPORT, MASS.—Several business establishments	80
SHAWMUT, ME.—School, several residences and stores	45
HAYS, PA.—Store of T. W. Scott Co. damaged	25
CLARKSVILLE, OHIO—Factory and whse. of Hugh Baugh Canning Co.	60
ZAP, N. DAK.—Tipple of Republic Coal Co. destroyed	25
MARTINEZ, CAL.—State Theatre destroyed	125
S. ONONDAGA, N. Y.—Several bldgs. on Beak farm, 2 mi. south	65
HAGUE-ON LAKE GEORGE, N. Y.—Annex of Highland Harbor House	25
Week Ending October 23	
CLAYTONVILLE, ILL.—Beebe-Wise Elevator Co., adj. property	25

ATLANTA, GA.—Terminal Hotel, Imperial Restaurant, adj. bldg... 25
SPARTA, TENN.—Keystone Hotel, several business establishments 65
JACKSON, TENN.—Property of Gooch Edenton Hdw. Co..... 80
HEFLIN, ALA.—Central Hotel and Perry Bros. store destroyed.... 25
THOROLD, ONT.—Plant of Dominion Bakery destroyed..... 40
ADIN, CAL.—City hall and several business houses..... 35
SHERMAN, S. DAK.—Several business bldgs. destroyed..... 30
MONTREAL, QUE.—Business and residential property, Mt. Royal Avenue 30
ROCKAWAY BEACH, N. Y.—Concession stands of Seaside Impvt. Co. 80
ADIN, CAL.—Business section damaged..... 35
POMEROY, OHIO—Red Anchor Dept. store, adj. structures..... 80
SALEM, N. J.—Mannington Mills destroyed..... 160
BROOKLINE, MASS.—Harvard Congregational Church destroyed.. 175
CHICAGO, ILL.—Residence of N. Russo, Sheridan Rd..... 80
HOLDERNESS, N. H.—Holderness School-for Boys, destroyed..... 165
WALNUT, ILL.—Plant of Walnut Lumber & Supply Co..... 25
ABERDEEN, MISS.—Residence of Chas. E. Hamilton, destroyed.... 40
EVANSVILLE, IND.—Whse. of R. & G. Furniture Co..... 45
PORT NORRIS, N. J.—Plant of Planters Oyster Co. destroyed.... 50

Validity of Fire Department Contracts

(*Continued from page* 818)

Ministerial functions are those exercised by a city in the capacity of an individual or private corporation. These functions are for services for which the citizens pay, such as arise from supplying water and the operation of other departments, the expense of maintenance being principally derived from payment for the services rendered instead of from taxation.

It is true that the doctrine is now recognized that as the necessities of the local population require, and because of the public interest in certain public utilities and the universal and intimate relation they have to lives and pursuit of happiness of the local citizen, cities are empowered to acquire and operate in the interest of the local population certain business and properties such as water, lighting, and heating plants, sewerage and garbage facilities, telephones, and transportation. These are all operated in the so-called ministerial rights of the city but theoretically in the interest and to the convenience and profit of the local citizenry who in reality constitute the real owners of the properties.

On the other hand, it was never intended under the most extreme views of commercialism that this doctrine may be used and operated to the disadvantage of the people and at excessive cost and expense to the end that the profits therefrom may be expended in governmental activities lawfully exercised within the limitation of constitutional and legislative authority.

For illustration, in the late case of Loeb vs. City of Jacksonville, 134 So. 205, a municipality enacted an ordinance levying an ad valorem tax upon the property in the city to create a fund to be expended for the purpose of advertising the benefits, including the modern Fire Department equipment, possessed by the city. In holding this act illegal and not a valid taxation, the Court said:

"The function of government is the enactment and enforcement of rules of conduct for the people within a given territory to secure so nearly as possible individual opportunities for the enjoyment of the so-called inalienable rights which include the pursuit of happiness by the people within the territory. Not to reach out and bring into the territory other peoples from foreign states and territories that they may also be informed of the opportunities afforded by the particular government and may migrate to the territory to enjoy them. Whatever the modern city may be as distinguished from the cities of three or four decades ago when our Constitution was adopted, it cannot be said that they have grown from under its influence and become a sort of Commercial Frankenstein prodigy."

It is, therefore, quite apparent that any contract is void by which a municipality agrees to expend money for publicity purposes, unless state laws distinctly delegate such authority.

Scope of Written Contract

Ambiguity in a written contract may arise where the words in the agreement are uncertain when applied to the subject matter of the contract, as well as from words which are uncertain in their literal sense. Moreover, the law is well established that during a trial involving a written contract no evidence may be introduced to vary or explain the written words, except in limited cases.

In other words, when the terms of an agreement have been reduced to writing, this contract legally contains all the terms and obligations, and ordinarily no evidence of the agreement can be introduced other than the contents of the writing itself. Various Courts have held that the only instances when any testimony may be introduced to prove verbal agreements, when a written contract is being litigated, are as follows:

(1) Where a mistake in the writing is claimed by the complaining party;
(2) Where the validity of the contract is disputed;
or
(3) When the verbal testimony is intended to explain the legal meaning of an ambiguous contract.

For instance, in Barnhart vs. Preston, 290 Pac. 545, it was shown that a seller entered into a written agreement for a specially constructed machine. Several demonstration runs were made after the machine was finished, but never did the machine perform as required by the written contract.

The seller contended that failure of the machine to perform was due to the fact that the accessories furnished by the user were inadequate and inefficient. Therefore, the question presented the Court was whether the agreement included the obligation of the purchaser to furnish the accessories. In this case the Court permitted the seller to prove his contentions by introducing testimony relative to a verbal agreement because such testimony tended to explain the ambiguous clause.

Unreasonable Sale Contract Held Void

The legal rights of buyer and seller, with respect to contracts of sale, are well established. Generally speaking, where the contract of sale does not specify the seller's remedy, if the municipality refuses to take the merchandise and pay the agreed price therefor, the seller may resort to either one of three remedies, viz: (1) Standing on the sale, the seller may retain the property for the municipality and sue for the purchase price; (2) Acting as the agent of the municipality, the seller may resell the property, and then sue to recover the difference between the contract price and the price obtained on the resale; or (3) The seller may treat and keep the property as his own, and recover from the municipality the difference between the contract price and the market price at the time and place of delivery. However, in a case where the title to the property has not passed to the municipality, the seller has no cause of action for the contract price. In such case, he is compelled to recoup his loss, if any, by an action for damages founded upon a breach of the municipality's contract to accept and pay for the property.

It is a fundamental rule that the determination of the meaning of a contract depends, in each case, upon the intent of the parties as evidenced by the entire agreement construed in the light of the circumstances under which it was made. Therefore, as a general rule, the intent of the parties to a contract of sale will be interpreted by the Court and a decision rendered accordingly. On the other hand, if the stipulations of the contract are unreasonable or oppressive with respect to either the buyer or the seller, the contract is void notwithstanding the fact that both parties agreed to such unreasonable provisions when the contract was made.

Believe It or Not—It's So!

An enterprising restaurant in Havana, printed a program of the I. A. F. C. convention for the convenience of the Chiefs A number of amusing transpositions were made. According to the illuminating document, the following papers were presented. If you can recognize all the authors and the papers, rate yourself above the average in intelligence.

Production of Incendiarism, by J. C. Moran, Chief of the Fire Department of Hartford, Conn.

Our prograe of education, by Ralph J. Scott, Cheef of the Fire Department of Los Angeles, California, and President of the Education of the Association International of Chiefs of Departments of Fire Houses and Frank Cushman, Chief of Education Services and Industrial, Federal of Education of Washington, D. C.

It is a success, the Firemens Academy? by Wm. R. Anderson, Chief of the Fire Department of the Ft. Heyers, Fla.

Actual preventions, against fires, by Mr. George Booth, Chief Ingenier of General Accesors of New York, City.

Illuminations for accessors, by Henry Fox, Chief of the Department of the City of Boston, Mass.

Reduction of risk in fastivals, by James McMillan, Chief of the Fire Department of Orange, N. J.

Help to the neighborgs, by Peter Steinkellner, Cheef of the Fire Department of Milwaukee, Wiss.

Experience in the fire in Asylum, by Mr. Ricardo Lee Smith, Chief of the Fire Department of Pittsburgh, Pa.

Cham exercised in modern houses and departments, by Mr. Jhon Towey, Chief of Fire Department of Newark, N. J.

Push of the cooperation between the authorities, estatals, Municipal Department, by Sherwood Brockwell, Insurance Department, of Raleigh, N. C.

Learning to the pupils the first curing or trating the patients, by Charles A. McGinley, Chief of Fire Department of Orange, N. Y.

How you should maintaing your apparatus in a great City, when in services, by Hubert J. Treacy, Chief of Offices Department Repairs and Replaces, of New York, City.

FIRE DEPARTMENT ACTIVITIES

Shadyside, W. Va., will vote on a $6,500 bond issue to finance the purchase of fire apparatus.

The Fire Department of Springer, N. M., has recently been organized under the direction of Chief Norton Davis.

A fire station will be erected in Bellflower, Cal. Ground has been purchased for the building.

La Grande, Ore., wants enough money to be included in the budget to provide for a new 500-gallon pumper.

Agitation has been started for a combined Fire Department for Bloomfield Hills, Mich., and Bloomfield Township.

A Buick automobile has been purchased for the use of Chief James M. Ames of East St. Louis, Ill.

New fire apparatus has been delivered to Sunbury, Pa. The unit has been placed in Number 1 quarters.

Firemen of Kenyon, Minn., want the council to purchase new fire apparatus.

Appleton, Wis., has been urged to improve its fire fighting facilities by the Wisconsin Fire Inspection Bureau.

A drill tower has been erected in Omaha, Neb., and regular drill work has been instituted by the Fire Department.

Manitowoc, Wis., is considering the erection of a new fire station although nothing definite has been decided.

Volunteer firemen of Clifton, Ky., have started a drive to raise funds for the purchase of fire apparatus. A house to house canvass is being made.

Malvern, Ia., has voted to use its new fire apparatus at fires outside of the city limits as well as for the protection of the municipality.

Members of the department are working on the new county fire station being erected in Santa Paula, Cal., in order to cut down the expense of the building.

A two-story fire station will be erected in Woodland, Cal. It will form a wing of the main city hall. The second floor will be used as a dormitory.

Marcus, Ia., has made arrangements for the purchase of fire apparatus. One half of the purchase price is to be paid by the council and the balance by subscriptions.

Waverly, Ia., is raising funds for the purchase of apparatus to protect rural property. A large part of the $6,500 necessary has been pledged.

The Firemen of Albuquerque, N. M., are now working on a three-shift basis of eight hours each. This change became effective September 15.

South Norwalk, Conn., is considering the construction of a new fire station to cost $65,000. If the plan is approved, bonds will be issued to finance the construction.

Cape Girardeau, Mo., is contemplating the purchase of new fire apparatus. No definite action has been taken other than to write for prices on a 750- and a 1,000-gallon pumper.

Petitions are being circulated in Los Catos, Cal., for the formation of a fire district outside the city limits. The plan is endorsed by the State Fire Warden.

Winlock, Cal., will buy new fire apparatus for rural fire protection. The purchase is to be financed by professional men of Winlock and farmers living nearby.

Amherst, Ohio, is considering the purchase of fire apparatus. The City Solicitor has been directed to prepare the necessary legislation for the purchase of apparatus.

Proceeds from a $60,000 bond issue in Indianapolis, Ind., will be used to purchase two new sites and for the construction of three new fire stations.

Contracts have been let for two fire stations to be erected in Tulsa, Okla. The two houses will cost about $30,000, and construction will be started at an early date.

Seattle, Wash., voted to repair the Fireboat "Snoqualmie." At the request of Chief Robert L. Laing, the council voted $5,000 for the work.

Boone, Ia., has passed an ordinance forbidding the sale of fireworks. A number of other cities in Iowa have passed similar ordinances.

Elgin, Ill., has opened bids to purchase a 750-gallon pumper. No provision has been made for this apparatus in the budget so the purchase price will be paid in installments which will be listed in the records as "rental fees."

The Fire Department of Iowa City, Ia., is to make an inspection of all the Greek letter fraternity and sorority houses in Iowa City. The inspections will be under the direction of Chief Amish.

Harlan, Ind., has adopted an ordinance which prohibits the use or sale of fireworks. For violating the ordinance there is a penalty of $100 fine or a maximum jail sentence of sixty days.

The volunteer Fire Department of Clayton, N. M., is receiving regular instruction in the use of salvage covers, under the direction of Chief Beatty. A new piece of apparatus has been added to the Fire Department.

The Board of Fire Underwriters of the Pacific has recommended that Santa Paula, Cal., erect a new fire station and establish a new fire company. It has also suggested that at least one paid fireman be in the fire stations at all times.

Engine Co. No. 8, a new company, has been placed in service in Cincinnati, Ohio. Chief Barney Houston was in charge of the ceremonies. Old Company No. 8 was abandoned several years ago.

Mayor Russell of Cambridge, Mass., has appointed a committee to investigate and make recommendations regarding equipment for a new rescue company which will be installed in the Cambridge Fire Department.

A group of 140 farmers living within a twelve-mile radius of Monticello, Ia., have contributed towards the purchase of fire apparatus for the protection of rural property. The apparatus will be housed at the Monticello fire station.

A community fire apparatus is being considered for the protection of New Haven, Newport, Dell Prairie, Delton and Lyndon, Wis. It is believed that suitable apparatus can be purchased for $4,000.

A site for a new fire station in Altoona, Pa., has been donated by the Pennsylvania Railroad. The City Council is planning immediate construction of a fire station on that land to house Company No. 6.

Colfax, Ia., has refused to accept $100 presented by Newton for the aid rendered during a disastrous fire. In returning the check, Chief Hahn of Colfax wrote, "we do not feel deserving of it since we did freely for you what you had formerly done for us."

Firemen in the vicinity of Brainerd, Minn., favor the banning of fireworks. Delegates of seven Fire Departments in the district, members of the Cuyuna Range Firemen's Association, voted to place a ban on the sale of fireworks at an association meeting held in Deerwood.

A new fire station is being constructed in Socorro, N. M. It will have a large apparatus room, living quarters for the Chief and several men, and a storage room on the first floor. On the second floor will be a meeting room and a small kitchen.

City officials of La Salle, Ill., are trying to enforce an ordinance governing the employment of firemen. According to the rule all firemen must live within 1,200 feet of headquarters. Some of the firemen live outside of the prescribed area.

Preston, Ia., is expecting the delivery of Nott fire apparatus. The unit was purchased as a community apparatus, the town paying half and the farmers in the surrounding community subscribing at $25 a membership, in order to pay the balance.

A full time Fire Chief for Fairhaven, Mass., has been recommended by engineers of the New England Insurance Exchange. They also suggested the installation of more hydrants and that the hydrants be inspected more frequently.

Wisconsin Chiefs Ask for a Standard Number—At the recent convention of the Wisconsin Fire Chiefs' Association held at Portage, Wis., a resolution was adopted that a standard telephone number be established for all fire stations in all cities throughout the United States. Copies of the resolution are to be sent to the Bureau of Standards, the National Board of Fire Underwriters, and other groups. The 1932 convention of the association will be held in Appleton.

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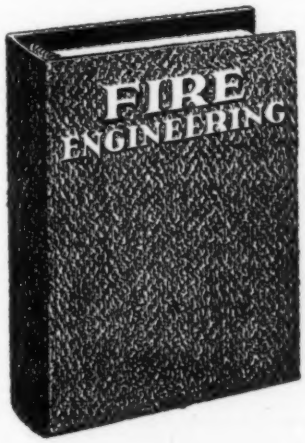

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PROPOSED IMPROVEMENTS

Goshen, N. Y.—Reports state Village Trustees considering replacing entire fire alarm system.

Norwalk, Conn.—Plans have been completed for erection of new fire station in first district. Expenditure of $65,000 has been approved for this purpose.

Niagara Falls, N. Y.—James A. Campbell, Acting Mayor, advocated voting on bond issue for construction of new fire stations, purchase of equipment and installation of central fire and police alarm system, according to reports.

Northfield, Mass.—Plans are being discussed for improving fire alarm system, according to reports.

Cohoes, N. Y.—Reports state Mayor James P. Dooley recommended to Council that at least one new piece of fire apparatus be purchased this year. James H. Golden, Chief.

Milford, Conn.—Finance Board recommended purchase of new 750 gal. pumper for Station No. 5, in Woodmont.

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CONVENTION DATES

Oct. 28—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY, N. Y. Monthly Meeting, Fire Headquarters, Peekskill, N. Y. Secretary-Treasurer, E. Riviere, Fire Headquarters, Larchmont, N. Y.

May 9-12, 1932—NATIONAL FIRE PROTECTION ASSOCIATION. 36th Annual Meeting, Atlantic City, N. J. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 11, 1932—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 3rd Annual Convention, Cape Charles, Va. Secretary, W. A. Karpa, Cape Charles, Va.

June, 1932—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION, 60th Annual Convention, Gibsonburg, Ohio (exact date to be decided later). Secretary, Harry Smith, Supt., Water Works, Port Clinton, Ohio.

June 21-24, 1932—ILLINOIS FIRE COLLEGE, 8th Annual College, University of Illinois, Champaign-Urbana, Ill. Director, Prof. L. H. Province; Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

June 21-24, 1932—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS, 10th annual convention, Newport, R. I. Secretary, John W. O'Hearn, Watertown, Mass.

Aug., 1932—VIRGINIA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Alexandria, Va. (Exact date to be determined later.) Secretary, O. W. Dabney, Staunton, Va.

Aug. 2-4, 1932—INDIANA FIREMEN'S ASSOCIATION, 16th Annual Convention, Columbus, Ind. Secretary, Clem Smith, Post Office Box 530, Terre Haute, Ind.

Toronto Fire Department On Parade

A number of units of fire apparatus participated in the Labor Day parade held in Toronto, Can., in connection with the Canadian National Exhibition. The city's first pumper in use in 1870 bore the legend, "1870—Insurance Rate $30 per Thousand." The LaFrance 85-foot aerial just delivered to Toronto and illustrated above carried the sign, "1931—Insurance Rate $2 per Thousand."

Ex-Deputy Chief Maher, of N. Y., Dead

Patrick Maher, for many years in charge of the Brooklyn and Queens Boroughs Divisions of the New York Fire Department, died at his home in Brooklyn from pneumonia at the age of sixty-nine. He had retired from the service on June 1.

Born in Ireland, he came to this country with his parents when he was twelve years old. He enlisted in the United States Navy as a youth. Maher joined the New York Fire Department in 1886.

In 1902 he was appointed Captain of Engine Company 201 in Brooklyn and later was made Battalion Chief. His promotion to Deputy Chief came during the administration of the late Mayor William J. Gaynor.

The Late Ex-Chief Patrick Maher

This photograph was taken at the time of his promotion to Deputy Chief.

In 1915, Chief Maher received the Administration Medal offered for the best suggestion for improving the morale and efficiency of the department. He was known as one of the leading promoters of the two-platoon system.

He is survived by his widow and nine children. Two sons are members of the New York Fire Department and a third is on the list for appointment.

The 1932 Southeast Missouri Fire School will be held in Sikeston. Chief J. A. Young of Sikeston was elected President of the association.

A Magirus turntable ladder which can be extended to 150 feet, built entirely of steel, has been exhibited at the recent International Fire Apparatus Exhibition in Paris, France. It is said to be the world's longest ladder.

Statement of Ownership

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of FIRE ENGINEERING, published bi-weekly at New York, New York, October 1, 1931.

State of New York, County of New York, s.s.:

Before me, a Notary Public in and for the state and county aforesaid, personally appeared I. H. Case, who, having been duly sworn according to law, deposes and says that he is the Business Manager of FIRE ENGINEERING and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of Congress of August 24, 1912, embodied in section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher—Case-Shepperd-Mann Publishing Corporation, 24 West 40th Street, New York City.

Editor—Robert H. Lockwood, 24 West 40th Street, New York City.
Managing Editor—Fred Shepperd, 24 West 40th Street, New York City.
Business Manager—I. H. Case, 24 West 40th Street, New York City.

2. That the owners are:

Case-Shepperd-Mann Publishing Corporation, 24 West 40th Street, New York City.

I. H. Case, 24 West 40th Street, New York City.

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3. That the known bondholders, mortgagees, and other security holders, owning or holding 1 per cent, or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain, not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

I. H. CASE,
Business Manager.

Sworn to and subscribed before me this 30th day of September, 1931.
(Seal) ELLEN E. DUNCANSON.
(My commission expires March 30, 1932.)

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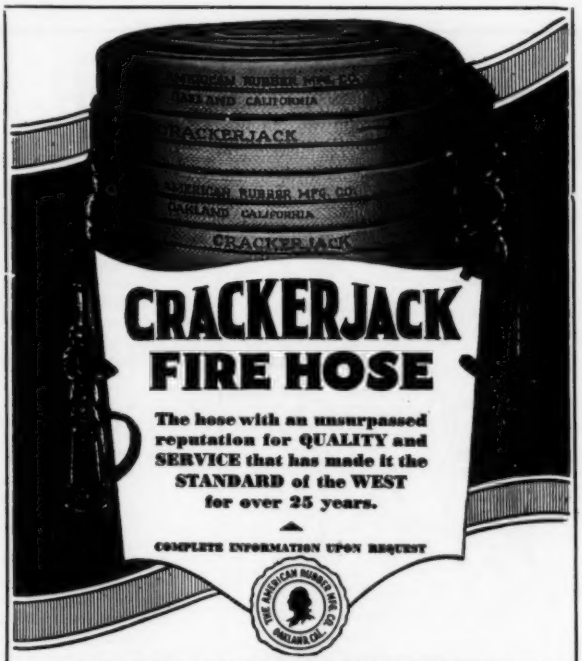

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FALSE ALARMS

—Drawing by "Art" Espey

Marooned Sailor: "Either you tie that with a bowline, Mike, or I don't slide no rope. Unnerstand?"

AN OMISSION

After the arson trial which was decided against the defendant, the man sentenced was discussing the course of events with his lawyer.

"All through my trial," said the defendant, "you kept saying, 'Your honor, I object.'"

"So I did," answered the lawyer. "You had the benefit of my best legal efforts."

"Then why in Sam Hill when the judge sentenced me to ten years, didn't you object to that?"

"See if you can laugh that off," said the wife of the corpulent inspector, as she wired a button on his vest.

NOT WANTED

When the construction started on the new central fire station there was a flood of local applicants for the jobs. All local labor was used, and married men were taken care of first. It was not long before all available jobs were filled, and the construction foreman placed one of the usual signs on the outside of his shanty. But still another applicant applied. The foreman was angry:

"Don't you see that sign, 'No Help Wanted.'"

"Yes," answered the new arrival, "but I promised my wife I'd ask for a job today and that's why I applied."

A Scotchman was once run over by a beer wagon and for the first time in his life the drinks were on him.

YOU TELL ONE!

Gathered on the second floor of the station, with their feet perched on the billiard table, the conversation turned to the toughest fire and from that to the most embarrassing moment.

One of the crowd twisted his lips to the proper position, took a shot at the overflowing cuspidor and said:

"You can talk all you want about embarrassing moments but I'll never forget the night of the annual ball when I lead the grand march and my garter came down."

When an awning caught on fire in New York City, three companies answered. They were fast, but not fast enough. An Italian lemonade-vendor beat the firemen by the length of a pushcart. He poured three glasses of lemonade on the awning and put out the fire. The firemen went back to their checkers, the apartment-house manager paid the vendor fifteen cents for the lemonade, and all was well.

SURE METHOD

"What makes you carry that terrible shriek machine on your car?" a kind old lady asked the Fire Chief.

"For humane reasons," answered the Chief. "If I can paralyze a person with fear he will keep still and I can run to one side of him."

During the recent floods in China an official of the S. A. D. 1 (ex-German Concession) decided that the district fire engine might be used to advantage for relief work. On opening the fire station, however, it was discovered that there was no sign of the fire apparatus. One of the firemen on being questioned said that he remembered having seen it some weeks ago but that he had not seen it since.

Business men used to kiss their stenographers only after hours; now it's the work of a few minutes.

MISUNDERSTOOD

One of the boys was driving into town and he stopped at the fire hall to inquire if he could get anything for the fellows while he was in town. He was told to get something for the radio which was not operating properly.

He went into the big drug store and asked, "Do you carry B eliminators here?"

Evidently the clerk did not understand.

"No sir, but we have a fresh stock of roach powder and some of the latest fly swatters."

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The agent drives it four hundred miles while demonstrating and it's still a new car. When you drive it home, it's a used car worth $800 less.

Shep Tatum's barn burned to the ground the other day while the Fire Department was out having a fire prevention parade.

—Drawing by "Art" Espey

Corpulent Blueshirt: "The Ladies Auxiliary did a great thing buyin' us them new nozzles."

Observing Friend: "You bet! And they're puttin' a lotta money in hose, too."

YOUR CATALOG PAGE

Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banner, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Firm Alarm, Municipal
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Caps, Firemen's.
23 Chains, Non-Skid Fire Apparatus.
24 Chassis for Fire Apparatus.
25 Chemical Engines and Tanks.
26 Chimney Fire Fusees & Compounds
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Calcium Chloride.
35 Extinguishers, Carbon Dioxide.
36 Extinguishers, Soda-Acid.
37 Extinguishers, Carbon Tetrachloride.
38 Extinguishers, Foam.
39 Extinguishers, Powder.
40 Fire Boat Nozzle Equipment.
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45 Fire Escapes, Rigid.
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47 Flare Lights.
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49 Foam Generating Apparatus.
50 Foam Liquid Extinguishers.
51 Gas Masks and Respirators.
52 Gas & Smoke Helmets.
53 Goggles, Firmen's.
54 Helmets, Metal, etc.
55 Hose Carts, Reels & Racks.
56 Hose Clamps.
57 Horse, Fire.
58 Hose, Chemical.
59 Hose Holders.
60 Hose Jackets.
61 Hose Standardization Tools.
62 Hydrant Draining Pumps.
63 Hydrants, Fire.
64 Jacks for Fire Trucks.
65 Jacks, Shoring & Prying.
66 Ladders, Fire.
67 Lightning Arresters.
68 Motorcycles, Fire Dept. Equipped.
69 Nets, Life.
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91 Spark Plugs, Fire Apparatus & Motorcycles.
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110 Whistles, Fire Alarm, Steam.
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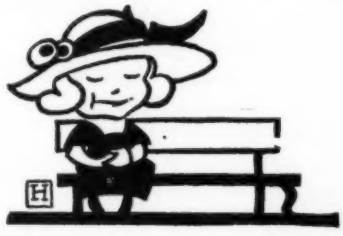

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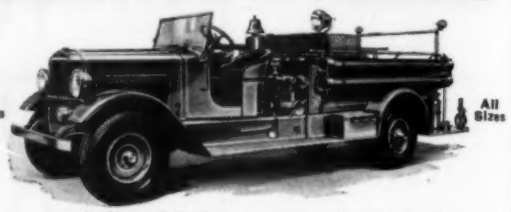

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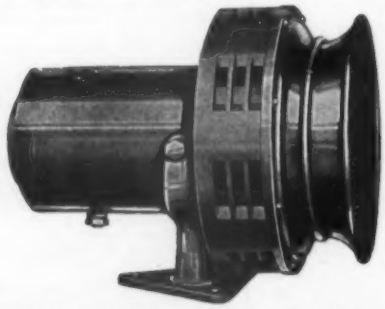

THE STERLING SIREN FIRE ALARM CO., INC.
61 Allen Street : : Rochester, N. Y.

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BUFFALO FIRE APPARATUS?
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BUFFALO FIRE APPLIANCE CORP.
44 CENTRAL AVENUE BUFFALO, N. Y.

The most essential accessory to modern fire apparatus—National Foam Equipment.
NATIONAL FOAM SYSTEM, Inc.
Philadelphia
New York Chicago Tulsa

Valuable Information

All the manufacturers you will find represented in our advertising pages have interesting and valuable data about their equipment which is yours for the asking. When writing, be sure to mention FIRE ENGINEERING.

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is for Fire Protection Officials

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Position .....

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This Line
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Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

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Wound with a woven-in strand which runs back and forth from rubber lining to outer surface. This yields a pliability which prevents all buckling at the folds. Write for details.

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RUBBER CORPORATION
BUFFALO, N. Y.
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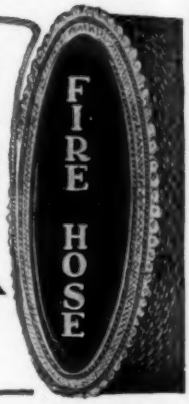

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Never go to a fire without the protection of a good helmet. It may save your life.

Send for your copy of Catalog No. 227, showing this latest improvement.

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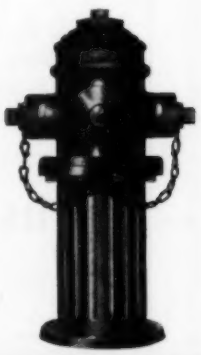
BECAUSE: they are designed with the special features a fire department wants. Whenever you specify new hydrants be sure to have our folder in your files under Hydrants. This folder is for any chief who wants to recommend a hydrant that is built right. Send for folder and always recommend the CRISPIN.



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Plant: Berwick, Pa.

G

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RENSSELAER VALVE CO.,
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Send Catalog "G" to

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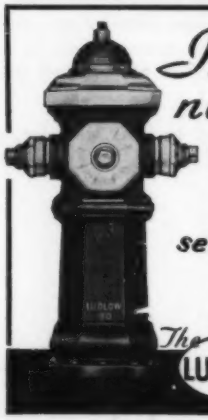

Introducing new safety factors

The **LUDLOW DIAMOND**

self-illuminating hydrant

Write for new descriptive folder—free to any interested official.

The LUDLOW VALVE MFG. CO.
TROY NEW YORK

STORMY WEATHER

cannot affect this siren

DOES the siren in your town "kick-up" in stormy weather? If it does—you had better investigate the COSGRAVE SIREN. It is shielded so completely that snow, rain, sleet or ice cannot affect it. Time and elements will not dim its greater carrying power. Chiefs who know a good siren select a

COSGRAVE SIREN

The World's Clearest and Best Fire Signal

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CONSIDER THIS PROPOSITION

IF you are a fire alarm man, electrician, or know something of electricity, we offer you the opportunity of representing us in your territory. Full information concerning our proposition will be sent you if you are serious about making good money. Write, in confidence, now.

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THE COSGRAVE COMPANY

LYONS AVE. & COIT ST., IRVINGTON, N. J.

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—a treated cotton duck coat that will outlast all other materials

A coat you can wear all year round and be comfortable — take lining out when not needed. Read these other features.

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